

American **FORESTS**

The Magazine of Forests, Soil, Water, Wildlife, and Outdoor Recreation

OCTOBER 1959


50 CENTS



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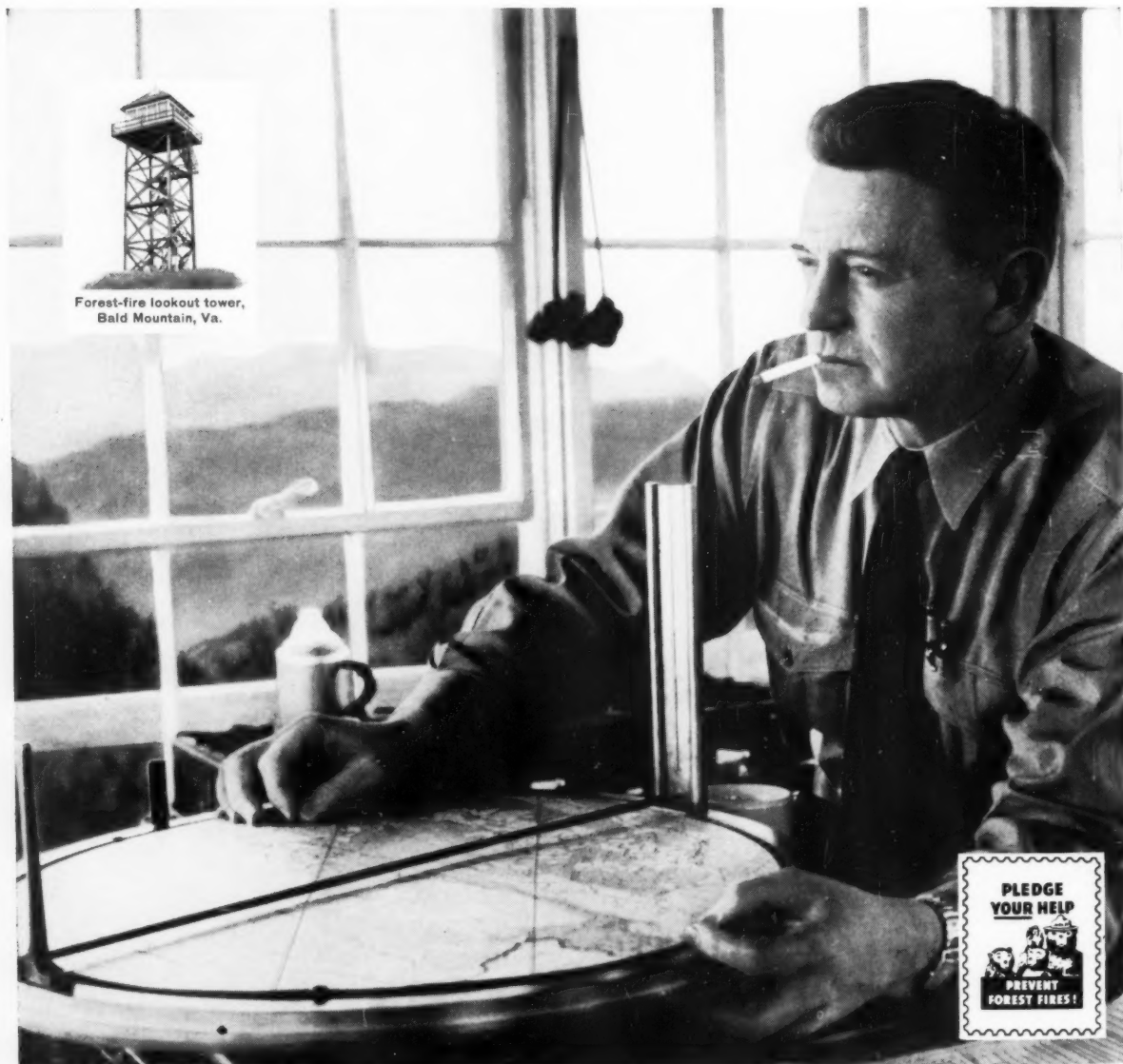
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Nature's strong right arm

For the houses we live in, the paper we communicate with and, in large part, for the strength of the nation's economy . . . we owe thanks to America's forests. And for preserving our forests—for giving them eyes to spot danger and arms for protection—The American Forestry Association deserves the praise and strong support of

every American. This year, as in the past, The American Tobacco Company pledges its support to the work of the foresters. We will continue to caution Americans against carelessness with matches, cigarettes and campfires. We hope our campaign against negligence in the woods will make the foresters' job an easier one.



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OF PENNSYLVANIA"**

(BASIC STATISTICS)

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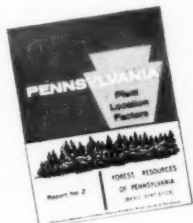
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New 98-page report, just released, is of major significance to new or expanding wood utilization industries. There are approximately 15.1 million acres of commercial forest land in Pennsylvania, consisting of more than 12 billion cubic feet of growing stock!

Charts included in the study show breakdowns of the volume of total growing stock by species group, by diameter and size-class of the trees, by the end-use for which timber is suitable, and by species and forest-type. Tables detail annual growth and annual cut of timber in the commercial forest areas on a county-by-county basis.



You may obtain copies of this valuable study, without cost, by writing on company or business affiliated letterhead. Send request to:

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James B. Craig
Editor

Betty Kindleberger
Assistant Editor

James J. Fisher
Art Director

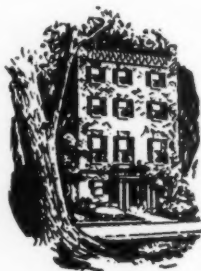
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OUR COVER

The cities of Philadelphia and Pittsburgh figure strongly in the program of the Pennsylvania Department of Forests and Waters of "Building a Park Within 25 Miles of Every Citizen in the State." The picture above shows how the new park at Independence Hall, the Cradle of Liberty, will look when the job is completed. Below, Point State Park in Pittsburgh. According to Gov. Lawrence three things helped save the City That Nearly Died—flood control, Point State Park, and smoke control. Land for these two parks alone cost more than all other department lands combined.



The AFA

The American Forestry Association, publishers of *American Forests*, is a national organization — independent and non-political in character—for the advancement of intelligent management and use of forests and related resources of soil, water, wildlife and outdoor recreation. Its purpose is to create an enlightened public appreciation of these resources and the part they play in the social and economic life of the nation. Created in 1875, it is the oldest national forest conservation organization in America.

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Richmond, Virginia



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THROUGH THE HEART OF THE SOUTH

Forest Forum

From Our Trail Riders

MRS. DIXON:

Had a wonderful trip in the Wind River country. I can understand why people like to repeat it. . . . I must say the Loziers are just about the best outfitters I have been with. . . . I would be interested in a Vermont ride at a future date.

Kay Turzyn
55 Melrose Ave.
Bergenfield, N. J.

MRS. DIXON:

The Trail Riders canoe trip is now history, and my improved muscle power proved advantageous when I moved to a small apartment. The guides on the canoe trip were very high type men and I felt very secure under their direction. I would be very much interested in a New Hampshire trip next year.

Leta Schneider
671 East Drive
Indianapolis, Indiana

MRS. DIXON:

Many thanks to you for your kindness to my family in their anxiety for my safety on the Yellowstone Park trip. One park ranger did mention casually something about a "little disturbance over in West Yellowstone." Relating back to the trip, I do remember awakening to see the tent shaking, but I assumed it was the wind. As usual, I had a wonderful time and loved the country. Mr. Frome is a fine packer.

Emilie Dublon
125 West 16th Street
New York 11, New York

MRS. DIXON:

The Wind River trip was the best vacation I have ever had—and I have had some good ones. There was an unusually congenial group of people including the outfitter, Walt Lozier, and his wife.

Marjorie Burdette
4714 Oak Terrace
Merchantville 8, N. J.

MRS. DIXON:

I'd say the Quetico-Superior canoe trip was most successful. We were blessed with good weather, superior outfitting, and top-notch guides.

Robert L. Lloyd
Washington Valley
Morristown, N. J.

MRS. DIXON:

I wish to express my deep appreciation for the opportunity to have been present and to relive the life of the pioneer, sharing with the people long since gone, the life of those times and the traditions on which our beloved country was founded. (High Uintas)

Ralph Bush, D.D.S.
Norfield Corners
Weston, Conn.

MRS. DIXON:

My wife, 14-year-old daughter, and I just returned from the thrilling wilderness trip

in White River and Gunnison National Forests. The Davis family does a good job on the outfitting—and they are indeed a fine family. More power to you—and here's to many more expeditions sponsored by you.

Franz Allers
750 West 232nd Street
New York 63, N. Y.

MRS. DIXON:

I truly did enjoy our journey through the wilds of Montana. Looking back, after reviewing my notes, I realize that certainly no vacationer could have asked for more adventure, beauty, or plain, old-fashioned fun.

Patricia E. Moss
Arlington, New Jersey

Career Conservation

EDITOR:

RE: "Conservation As A Career" (AM Forests 6/59)
Letter: Roger Hale, Conservation Foundation (AM Forests 8/59)

Read both items with interest and I certainly agree with Mr. Hale in regards to specialization. However, I feel that we must point out our existence is based on the generalization of "Conservation As A Career." And, in fact, the referred-to article points up the truth of its own title.

We have been training men in the generalized fields of conservation for some five years, having dealt with thousands and graduated many who are actively engaged in the career conservation positions which do exist. We refer to the sub-college level which is the backbone of any conservation program: the "workhorses" of the federal, state and local conservation departments.

I must insist that attention be given to the fact that there is a growing need for individuals with the broadest of backgrounds in the field of "Forestry & Wildlife" work. Also, that AMERICAN FORESTS become aware of this group in planning and discussing "Conservation As A Career."

William Morten, Pres.
Forestry and Wildlife Course
1038 S. La Brea Ave.
Los Angeles 19, Calif.

Prodigal's Return

EDITOR:

Some time ago I decided to quit AFA because of its stand on the Wilderness Bill, and I did. Then I decided to renew, and I have. After thinking it over, I decided that just because I didn't agree with you on some things was no reason to quit entirely.

I have 150 acres of woods here in the Ozarks. I would like to practice good forestry on it, but how can you in an open range country where herds of cows, hogs, horses, and goats run loose? The plantations of pine I set out are constantly being

broken and trampled; the tulip poplars have been completely destroyed. Some of my neighbors admit that as long as they can use the woods as pasture they will continue to set fires. So long as the open range exists, things are hopeless so far as the Ozarks are concerned.

Why don't you do something about it?

Richard Schwartz
P. O. Box 31
Van Buren, Missouri

Too Close a Shave?

EDITOR:

The picture of the Champion Tree which was saved from destruction in Memphis, Tennessee presents a very interesting situation. It will be interesting to see how long the tree will live under the harsh conditions imposed by the road builders.

A great number of surface leader roots have unquestionably been cut and after several years when hot weather hits and the top sends out an SOS for moisture it is extremely doubtful if the necessary root system will be there.

This is an interesting feature and I enjoy it every issue.

Edward H. Scanlon,
Editor
Trees Magazine
Olmsted Falls, Ohio

Alaska Fire

MR. POMEROY:

At the news of the inadequate funds provided in the federal budget for proper development of a fire suppression program in Alaska, as stated in your article, "The Expensables," I am shocked.

Please advise me if necessary action has been taken by the Senate Appropriations Committee and if letters to our senators and representatives are needed.

I wish to thank you and The American Forestry Association for your deliberate and forthright action on this matter. I am, I assure you, deeply concerned.

Leonard R. Graydon
Committee Chairman
The New York Ramblers
110 West 71 St.
New York 23, N. Y.

Forests Take Vision

EDITOR:

The article "Forests Take Vision" in the August issue of AMERICAN FORESTS was excellent. I hope you will find space for more articles on the experiences and problems of small woodlot owners, in your future issues.

Lester C. Johnson
Perryburg, Ohio
R. F. D. #2

(Turn to page 11)

another
Pilot Forest

There is something "new under the sun" — and the newest thing on the Southern scene are the 90 Pilot Forests, sponsored by the Pulp and Paper Mills of the region, and which were formally dedicated this April.

Here's what we had to say about the Four Pilot Forests — 3 in Georgia and one in South Carolina, which Union Bag-Camp was privileged to sponsor:

NOW! A permanent and continuing guide to profitable tree growing is yours in this demonstration farm forest which shows you first-hand how best to plant seedlings, control weed trees, harvest trees scientifically, set up fire control measures and other good forestry practices. This Pilot Forest is one of more than 90 tracts sponsored by Southern pulp and paper companies. Let this Pilot Forest help YOU put idle lands to profitable use or bring your current tree crop to peak production.

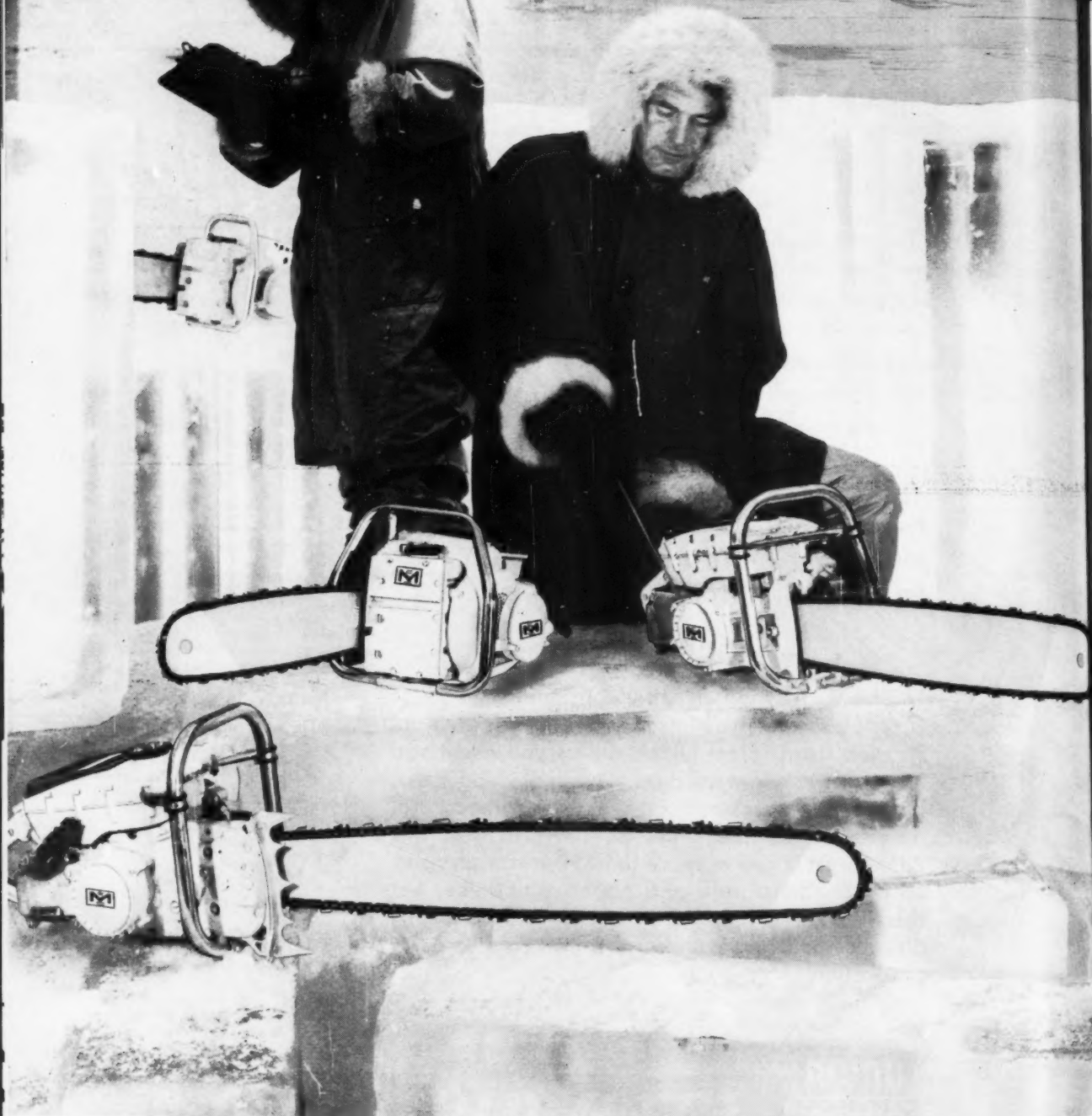


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At 30° below



TORTURE TEST NO. 71-42-8

McCulloch ONE/70 direct-drive chain saw subjected to -30° F. for 40 hours. At completion of impound period, saw tested for starting and wood-cutting performance. No adjustments made.

RESULTS: On first pull of starter rope engine turned easily and smoothly. Second pull produced partial combustion. Third pull resulted in full power start. Saw idled and accelerated smoothly. Subsequent wood-cutting analysis proved torque and RPM excellent.

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for 120° above...

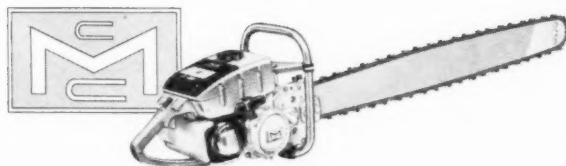
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Number One saws
start in seconds,
deliver smooth
power right now!



PLACE: Mojave Desert, California. MAX. AIR TEMP: 119.6° F. STARTING: Maximum 3 pulls. MAX. ENGINE TEMP. AT SHUTDOWN: 432.2° F. TYPE OF WOOD CUT: Oak, Fir, Pine, Cedar. PERFORMANCE: Full power. Constant torque transmission to chain.

A man who makes his living with a chain saw can't always wait on the weather. That's why we put our new McCulloch *Number One* saws through brutal torture tests to prove they start fast and keep cutting strong in arctic cold or blistering summer heat—or any weather condition in between.

Temperature is just part of the story as far as our tests at McCulloch are concerned. We put our new *Number One* saws through the most severe torture tests our engineers could think of. Starting tests. Endurance tests. Field tests. And, finally, tests on the job by hundreds of professional loggers and woodcutters throughout the country. Altogether, more than 40,000 man-hours and \$1,000,000 were spent testing the *Number One* saws. The results prove that, dollar for dollar, pound for pound, McCulloch is *Number One*. Reliable. Lightweight. Powerful. Easy on the man. Try *Number One* at your McCulloch dealer.



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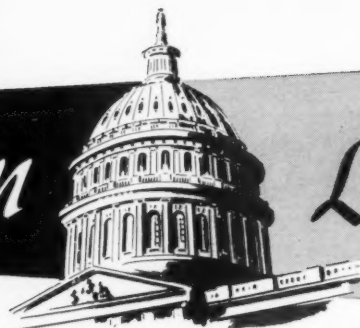
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Washington



Lookout

By ALBERT G. HALL

HOW MUCH WATER DEVELOPMENT IS NEEDED? WHEN IS IT NEEDED? WHERE IS IT NEEDED? What should be the physical pattern of water development in the future? These are the questions to which answers are being sought by the Senate Select Committee on National Water Resources. The committee will begin a series of hearings on water needs and proposals on October 7 in Bismarck, North Dakota, and will follow this with 17 similar hearings covering every region of the continental United States. Yet to be scheduled are hearings in the southeastern states. The select committee results from Senate adoption of S. Res. 48 in April of this year, authorizing \$175,000, "to make exhaustive studies of the extent to which water resource activities in the United States are related to the national interest, and the extent and character of water resource activities, both governmental and non-governmental, that can be expected to be required to provide the quantity and quality of water for use by the population, agriculture, and industry between the present time and 1980, along with suitable provisions for related recreational and fish and wildlife values, to the end that such studies and recommendations based thereon may be available to the Senate in considering water resources policies for the future."

CONGRESS HAS BECOME INCREASINGLY CONCERNED OVER THE ABILITY OF THE NATION'S WATER RESOURCES to sustain the continued economic growth necessary for our country to remain strong, to enjoy an ever-increasing standard of living, and to provide an adequate springboard to launch us into the space age which apparently lies just ahead, according to Theodore M. Schad, staff director of the select committee. Senator Kerr of Oklahoma is chairman of the committee; Senator Kuchel of California is vice chairman. Members of the committee include the chairman and the two other members from each of the standing committees concerned with water development and use: Interior and Insular Affairs, Public Works, Interstate and Foreign Commerce, and Agriculture and Forestry. Over the years the water resources programs of the federal government have grown on the basis of legislation which has emanated from these four committees, without any one of them being responsible for overall co-ordination of federal activities in the water resources field.

THE WATER RESOURCES REPORT is expected to be completed in June, 1960. Reliance will be placed in large part on the compilation of basic data by the federal agencies in the water resources field, and each state, including Alaska and Hawaii, has been asked to submit information on its water problems. Federal agencies asked to participate in the study are: Bureau of Reclamation, Corps of Engineers, Department of Agriculture, Public Health Service, Department of Commerce, Federal Power Commission, Department of the Interior, Geological Survey, and Census Bureau. Additional information on power demands is being developed for the committee by the Edison Electric Institute and the American Public Power Association.

COST ESTIMATES FOR DEVELOPMENT OF WATER SUPPLY TO MEET DEMANDS will be developed by the Corps of Engineers and the Bureau of Reclamation. The Ford Foundation-financed Resources for the Future, Inc., will prepare water supply-demand relationships for each of the major river basins and regions—22 water resources regions, plus Alaska and Hawaii. For new technical methods of improving water utilization, the committee has asked the Forest Service to report on vegetational management, the Weather Bureau to report on weather modification, the Bureau of Reclamation to report on evaporation reduction and reduction of other losses in water transportation and storage. The Office of Saline Water and the

(Turn to page 60)

Forest Forum

(From page 6)

Speaks Up For Forests

CHIEF FORESTER:

This is in reply to your letter of August 21 about my recent talk before the Western Association of State Game and Fish Commissioners. I appreciate your complimentary remarks.

You asked what I had in mind in referring to proposals which constitute a threat and a precedent for dismemberment of the whole national forest system.

I recently had a similar inquiry from Dr. Howard Zahniser of the Wilderness Society. I explained to him that I did not refer to the current Wilderness Bill, S. 1123, enactment of which has been recommended by this department with certain basic amendments.

However, we in the Department of Agriculture are aware of frequent proposals to transfer substantial areas of national forest land to national park, monument, or recreation area status. As an example, I refer to the suggestion to transfer numerous areas from Agriculture to Interior contained in the February 1959 issue of the Sierra Club Bulletin. Also there are bills in Congress to authorize an Ice Age National Park in Wisconsin and an Oregon Dunes National Seashore in Oregon. Both of these proposals involve substantial acreages of national forest land.

There have been other proposals vigorously advanced to establish national parks in the North Cascades in Washington and in the Wheeler Peak area of the Humboldt National Forest in Nevada. Both of these areas have been administered and protected for many years by the Forest Service under its policies of multiple-use management. We are strongly of the opinion that these and other national forest areas which have been mentioned by park advocates should continue to be administered by the Forest Service. We consider proposals to transfer jurisdiction to another department a threat toward dismemberment of the national forest system.

The advocates of these proposals rarely seek the views of the Department of Agriculture, the agency which is now administering the land. I appreciate the fact that you have done so, thus giving me an opportunity to express our firm opposition to these proposals for single-purpose use.

I consider any action which would tend to weaken or dismember the national forest system to be adverse to the public interest.

E. L. Peterson
Assistant Secretary
Department of Agriculture
Washington, D. C.

Thank You, Sir

MR. HORNADAY:

When I got home the other night I found my copy of AMERICAN FORESTS for August, and I read with a great deal of pleasure several of the articles—I am sure you know which ones.

The Cape Cod article "Thoreau's Cape Cod" is a dandy story, as is "Cape Cod Forests." I was particularly pleased with the latter because, in my opinion, it is

(Turn to page 86)

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18 MINUTES — \$139.00

This film covers the many uses of the shovel as a basic firefighting tool. Even old-timers in the firefighting game will learn new techniques from information gathered throughout the United States and Canada. Safety and proper use for maximum accomplishment is stressed throughout the film.

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Sharp cutting tools are safe cutting tools — when properly used! This basic film effectively demonstrates safe and efficient use of cutting tools on the fire line. Fundamental rules for axe, Pulaski, brushhook and other tools are clearly outlined and summarized for easy learning. Proper maintenance and storage is also covered.

DOWN TO EARTH 13½ MINUTES — \$127.00

A new and interesting film presentation of the correct and safe use of scraping tools. Instructor, with help of Trainee and skilled firefighters, points out the many uses of scraping tools on the fire line. He emphasizes proper tool selection for job at hand as well as safe working habits.

SAFETY DEPENDS ON YOU

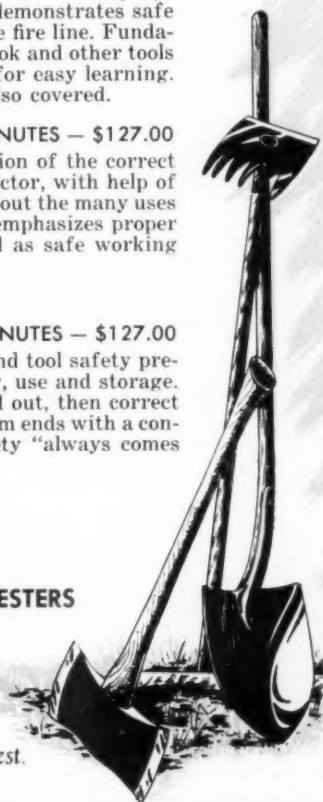
13½ MINUTES — \$127.00

This safety film covers all general hand tool safety precautions including carrying, handling, use and storage. Hazards of improper acts are pointed out, then correct methods are clearly demonstrated. Film ends with a concise summary and stresses that safety "always comes first."

Produced with co-operation
and assistance by

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UNITED STATES FOREST SERVICE
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FOREST SERVICE, B.C., CANADA

Preview Prints are available on request.



Army Engineers Honor Goddard



Dr. Goddard (left) receives congratulations from Col. T. D. Setliffe, Governor David L. Lawrence of Penna., Col. S. T. B. Johnson, Col. S. E. Smith, Lt. Col. W. W. Boggs

DR. Maurice K. Goddard, Pennsylvania's Secretary of Forests and Waters, was honored recently with the Army's second highest distinguished public service award in recognition of his close co-operation with the Corps of Engineers in providing increased flood protection and improved navigation facilities for Pennsylvania.

Goddard received the Patriotic Civilian Service Award in the office of Governor David L. Lawrence at a ceremony attended by the governor and members of the cabinet. Colonel Stanley T. B. Johnson, District Engineer for the Baltimore District of the Corps of Engineers, presented the award on behalf of Secretary of the Army Wilbur M. Brucker and General E. C. Itschner, Chief of Engineers.

The citation read in part, "Your outstanding accomplishments in coordinating the activities of the many state agencies and municipalities and in integrating their efforts with those of the Corps of Engineers toward the common good of the public facilitated and accelerated the Corps' civil works mission in the state of Pennsylvania. Working in close co-operation with the Corps, you have assured timely local co-operation in federal projects and have directed a program of state-sponsored projects to supplement and ex-

ploit to the fullest, the benefits of federal projects."

In commenting on Dr. Goddard's accomplishments, Governor Lawrence said that he could think of no man or agency more deserving of such an honor. "Pennsylvania has today in the Department of Forests and Waters one of the nation's outstanding natural resource agencies," the Governor declared. "The success of Pennsylvania's conservation program over the last four or five years has been the work of many people, but it has been Maurice Goddard who has infused the program with enthusiasm and direction."

The Governor said that "Secretary Goddard's talent for gaining co-operation between state agencies, between the state and federal governments, and between his own department and private citizens of this commonwealth, has earned a wide distinction for Pennsylvania in the conservation field. Pennsylvania's state flood control program today is rivalled only by California, thanks to the co-operation of the U. S. Army Corps of Engineers, and Secretary Goddard's diligence."

"I can testify personally," the Governor added, "to the excellent spirit of co-operation which exists between the people of Pittsburgh and Secretary Goddard in carrying through the Point State Park program. . . ."

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Pennsylvania's Forestry Heritage



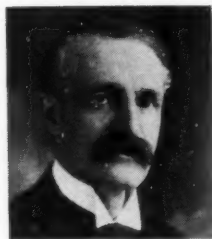
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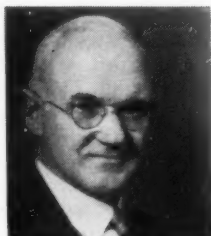
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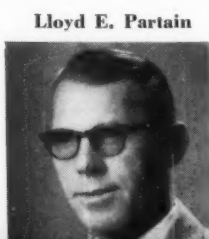
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By HENRY CLEPPER

FORESTRY in Pennsylvania may be said to have had its start as a result of two events that actually occurred outside the state.

One was the creation in 1873 by the American Association for the Advancement of Science of a committee "to memorialize Congress and the several state legislatures on the importance of promoting the cultivation of timber and the preservation of forests." As a result of the committee's activities, Dr. Franklin B. Hough was appointed special forestry agent in the U. S. Department of Agriculture by an Act of Congress in 1876. Influenced by this modest beginning of forestry in the federal government, several states soon showed official interest.

In 1875 the second event occurred. The American Forestry Congress (now The American Forestry Association) was organized. For more than eight decades this citizens' organization has led the cause of conservation in America. To it belongs the credit for having created the public sentiment that gave life to the early conservation movement in Pennsylvania and other states, as well as nationally.

A third event was wholly an indigenous development within the Keystone State, and was perhaps the most influential of all. At a meeting in Philadelphia on May 26, 1886, addresses on forestry were made by Dr. Joseph T. Rothrock and Dr. B. E. Fernow, chief of the Division of Forestry, U. S. Department of Agriculture. So enthusiastic was the interest among the audience that it was decided to form a forestry association. On November 30, 1886, the Pennsylvania Forestry Association was formally organized with Dr. Rothrock as president.

As early as 1877 Dr. Rothrock had begun a campaign for forest conservation in the commonwealth. In that year he had been appointed Michaux lecturer by the American Philosophical Society of Philadelphia. This appointment came as the result of a legacy by the great French botanist F. Andre Michaux to extend the knowledge of silviculture in America. The Philosophical Society was made custodian of the fund.

After the formation of the Pennsylvania Forestry Association, Dr. Rothrock's program of public edu-

(Turn to page 78)



◀ Dr. Maurice K. Goddard at Penn's View

Photo by Ralph Widner

Pennsylvania's

AS Henry Clepper comments in the preceding article, Pennsylvania has a proud forestry heritage. For the record, it should also be noted that the decades following the Rothrock beginnings found the state's resources programs floundering at times, with the exception of the dedicated fire program between 1901 and 1946 of Chief Fire Warden Wirt. To this indefatigable fire fighter (see page 90) must go great credit for today's big comeback in Penn's Woods. He was their great protector.

Elsewhere, the history is not always so attractive. Politics moved into the Department of Forests and Waters, and this was by no means entirely due to the so-called professional politicians. The voices of Pennsylvania professional men were heard all too infrequently in our scientific and lay conferences. Top men packed their bags and moved to greener pastures. All too often the state failed to attract the top men in Penn State's famous forestry school. In short, as mediocrity in the form of political appointments moved into more and more top technical positions the state became a sad object lesson. No matter how proud the heritage—be it a state or an association—it is necessary to cherish that heritage and keep the standards up.

Fortunately, as events were to prove, none of these problems was insurmountable. With the right man at the helm, all of these things have been corrected now. What must be termed the present renaissance in Pennsylvania resources programs dates back to January 17, 1955, when Governor Leader installed as secretary of Forests and Waters the individual who is proving to be the right man at the right time. And this new chapter, it should be added, is being carried forward by the present able governor, the Honorable David Lawrence.

The secretary's name is Maurice K. Goddard. A Maine-educated forester, he has been associated with the forestry school at Penn State since 1935, most recently as director. His background reveals that he was a capable forester and school administrator, a former lieutenant colonel in the Army, and an individual with an attractive personality. Events were also to show that here was a man capable of exploding with a self-starting, tireless sense of "mission," a student of practical government (he still says that the study of government is the great need in resources schools), an administrator with an almost uncanny knack for achieving co-operation, and a militant conservationist who believes it is high time conservation assumes its rightful place in national and state affairs "as the applied science of reconciling man's material demands upon nature with his biological dependence upon a balanced resources environment—balanced, that is, in terms of his long-range interests."

When Dr. Goddard moved from his little college town to the hurly-burly of Harrisburg governmental affairs, he knew that the success of his program

Resource Renaissance

would depend on his ability to attract and keep topflight professional men. With Governor Leader's backing, he set up a merit system for professional personnel, making them immune to the vicissitudes of politics, and immediately encountered opposition from some very astute individuals in the form of political chairmen from 67 Pennsylvania counties.

Goddard won this initial encounter and at the same time won the respect of the professional politicians. While he had shown that he had done his homework and knew a thing or two about tactics and maneuver, we believe that this initial victory must be attributed in large measure to the fact that Goddard has a sincere belief that politicians are human. By this we mean that he has a profound conviction, as a student of government, that politicians are useful people who protect our liberties and get things done. Unlike so many rigid, purist conservationists, he holds these same views in reference to such diverse groups as army engineers and highway builders, and he indeed believes that conservationists display an immature form of naivete when they fail to recognize the singular abilities of these groups and seek their co-operation. If we seem to dwell on this point at length we do so in the conviction that Goddard's great success as a conservationist hinges on one word—"co-operation." In following him around in his own state for several days—a task that starts around 6:30 and generally ends around midnight—we learned that it is a word he uses more than any other. At any rate, speaking as one pragmatist to another, Goddard asked that the political leaders show him the same respect that he was prepared to show them. He won that respect. He has since built one of the best all-around resources staffs in the history of the state or nation.

In turning next to Pennsylvania forestry we do so not because it is the most spectacular resource program in the state (it isn't) but because, in our opinion, Goddard's foresters are the unsung heroes of the comprehensive program unfolded by their jet-propelled boss. Under efficient State Forester Ralph Wible, who was brought back by Goddard, receipts from this program have now climbed to almost half a million dollars annually, most of it from sale of timber. Four booming nurseries turn out upwards of 20 million seedlings a year, and open pit miners have planted 63 million seedlings on 70,000 acres of strip-mined land since 1945. Good silvicultural practices adhere on upwards of three million acres of forest land as managed by 20 district foresters. Ninety timber sales are presently in progress. Assistance to private owners is increasing, and the department issues a market bulletin to 500 tree farmers and other owners in the state. At the same time, foresters are trying to purchase the private land in their checkerboard own-

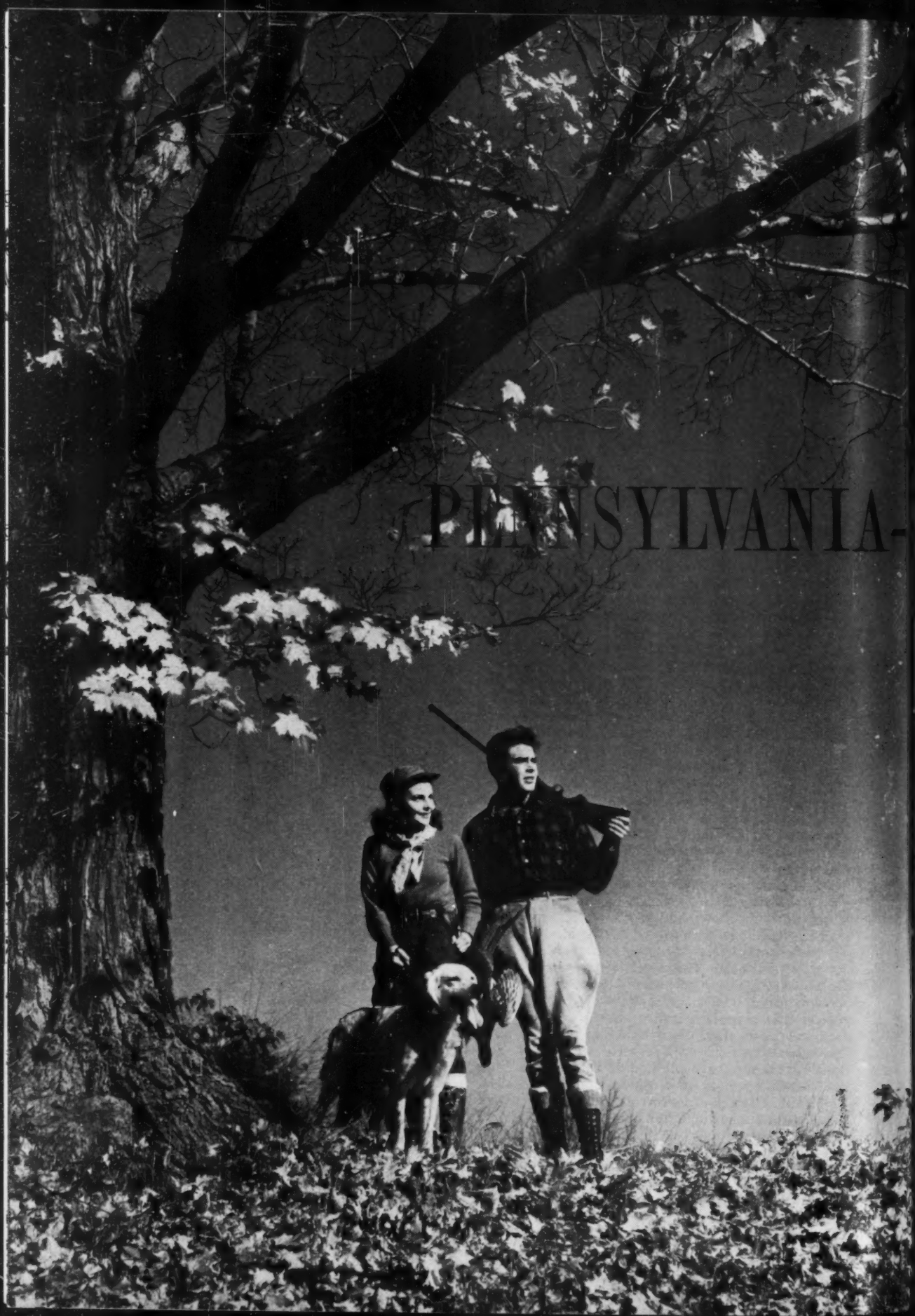
ership pattern, and they deserve more help from private industry on this project than they are currently receiving, although industry generally is solidly behind Goddard. Otherwise these privately-held units may well wind up in the hands of out-of-state hunting and fishing clubs. It would seem that any department that has abolished its own sawmills to encourage private initiative should not have to beg support in this particular matter.

But to us, the most remarkable thing about this forestry program, the second biggest money maker in the department (the first is oil and gas royalties, which will eventually reach a point of no return while the timber curve keeps going up), is its tremendous efficiency in terms of road building and maintaining some 4,000 miles of roads at an average cost of \$40 a mile, as compared to \$200 and more at the county level. Using second-hand Army surplus equipment, kept in the pink by the foresters, equipment costs are held down as the profit margin goes up. Even so, one district forester couldn't resist placing a particularly disreputable-looking but spotlessly clean truck at a strategic junction where it hit the inspecting forest commissioners—there are three—squarely in the eye. It was easily the most dilapidated-looking vehicle we had ever seen. Blandly giving the truck the once-over, Commissioner Glatfelter turned to the district forester and observed, "Well, as Goddard would say, the tires are good." In our opinion, Goddard not only demands but gets superlative service from his loyal foresters.

However, it must be conceded that the Big Spectacular in the Pennsylvania program is the Goddard campaign to "build a park within 25 miles of every citizen." Sixty-six state parks are now completed, four are in various stages of construction, and five more are on the drafting board. These are largely financed by approximately two-and-a-half million dollars annually from exploration, development, and royalties on oil and gas produced on state forest land. Working on the theory that outdoor recreation today must be regarded as the foremost of all the multiple uses of public lands, Goddard has enlisted an enviable type of co-operation from such agencies as the Fish and Game Commissions, the State Highway Department, the Army Engineers, the Soil Conservation and Forest Services, and others. Pennsylvania's park demand is second only to New York's, and Goddard is determined to meet it. As rapidly as soil is broken on all new recreation reservoirs, a complete staff including trained parks men and engineers are put on the job in the belief that these people should "grow with their own project." All of the various agencies and most of the citizens have received these parks with whoops of approval, for everyone benefits, including property owners adjacent to new

(Turn to page 60)

PENNSYLVANIA-





Hunting prospects are excellent due to the abundance and variety of game



As an industry, recreation outranks agriculture, a \$750 million business, in the state

the has everything STATE

By ROGER M. LATHAM

WHAT a surprise Pennsylvania must be to the out-of-state tourist who has cold-bloodedly checked the statistics of the commonwealth!

Somewhere he has heard that Pennsylvania offers tremendous outdoor recreational possibilities for the camper, the fisherman, the hunter, and for those who just seek beautiful scenery and solitude. Yet his book of facts would make this sound like an impossibility.

He reads that the commonwealth ranks thirty-second in size among the 48 states, yet has the second highest population. This means that its 12 million residents would have to be packed in at the rate of 250 per square mile. This is a greater population density than is found in most European countries, almost twice that of China, and very close to equalling that of India!

He continues to read and finds that it is probable that in all the world no other area of 45,000 square miles equals Pennsylvania in the wealth of its resources and the range of its products. Where else can be found an industrial pattern so rich and varied as to lead a whole hemisphere in the production of steel and pig iron on one hand, and of delicate lace curtains and table cloths on the other? What other re-

gion of the earth produces, at the same time, more cement and more umbrellas, more zinc and more shirts, more glass, more coke and coal-tar products, and more cigars—more of all of these than any other state in the nation, or any nation but our own in the western world? Ninety-nine per cent of all American anthracite comes from Pennsylvania, and the Keystone State is also one of the two greatest producers of bituminous coal. And it has the world's oldest continuously productive oil field.

Hearing these facts about Pennsylvania, a stranger might well imagine the whole area of this state to be nothing but a long line of factory chimneys, coal mines, and oil well derricks. But reading further, he would find out that Pennsylvania contains 15,000,000 acres of forest, and that more than 3,200,000 acres of that woodland are owned by the public and are devoted to wildlife, flood control, and public recreation.

But if that is so, the stranger would conclude that there can be nothing else between the industries and the forests. However, that would be far from true for, in addition to all its great and varied industries and its many millions of acres of wild land, Pennsylvania is one of America's great farming

states. It produces more steel, but also grows more cigar leaf tobacco. It quarries more stone, but also harvests more buckwheat. It also stands among the nation's great producers of potatoes and apples. It ships and receives a greater tonnage of commodities than any state in the union. Its highways would reach four times around the earth.

But with all its teeming industry and modern transportation, its 12 million people and 43,000 miles of paved highway, Pennsylvania still ranks near the top as a recreational state. In fact, recreation is a bigger industry in Pennsylvania than agriculture, even though the value of all farm products sold exceeds \$750 million. About 9,500 miles of fishing streams and numerous lakes and

About the Author

Roger M. Latham, outdoor editor for the *Pittsburgh Press*, is a wildlife management expert who became interested in writing while working for the Pennsylvania Game Commission. During his 21 years with the commission, Mr. Latham wrote technical articles for the commission's publications, as well as free-lance articles for such publications as *Field and Stream* and *Outdoor Life*. He studied wildlife management at Pennsylvania State University where he received B.A., M.A., and Ph.D. degrees in that subject.

Pennsylvania Cont.



Annual deer kill is phenomenal—from 100,000 to 125,000. However, hunters consider this large harvest necessary to keep herd within limits of the food supply

dams are enjoyed by at least 750,000 resident fishermen, not counting children. Over a million hunters harvest 100,000 to 125,000 deer, 300 to 400 bears, and 20,000 wild turkeys each year, plus countless thousands of small game mammals and birds of various kinds.

Diversity in recreational opportunity is probably Pennsylvania's greatest asset. It is only an hour's drive from the crowded beaches and bustling activity of Presque Isle State Park on Lake Erie to a true wilderness area where a man can get "lost" many miles from the nearest house or paved road. From the quiet dignity of Valley Forge just outside of Philadelphia to good wild turkey and deer hunting is only a matter of minutes. There is trout fishing within the city limits of Philadelphia, and wild deer can be found almost anywhere in the outskirts of Philadelphia, Pittsburgh, and other large cities.

Hunting in Pennsylvania is considered to be some of the finest to be found anywhere in the country—both in abundance and variety. In the farmland fields and woodlots, the Nimrod will find pheasants, bob-

white quail, cottontails, and squirrels in good numbers. The beagler and the bird dog owner is in his glory in this setting.

Perhaps the Keystone State is most famous for its renowned wild turkey hunting. Through a vigorous restoration campaign, the Game Commission was able to snatch this royal bird from the brink of extinction and return it to all suitable forest areas from one end of the state to the other. Today, Pennsylvania hunters probably kill more turkeys than do the hunters of any other state.

Just as noteworthy is the phenomenal annual deer kill. The hunters have learned that a harvest of both sexes is essential to keep the great herd within the limits of its food supply, and they launch enthusiastically into both the buck and antlerless deer seasons which are held separately. Besides the regular rifle season in December, the bow and arrow enthusiasts have the month of October to stalk their prey.

Other important woodland game are the ruffed grouse, snowshoe hare, and black bear. Although the specialists who prefer grouse and wood-

cock hunting to all other kinds are not many, their enthusiasm makes up for their lack of numbers. As many as 200,000 to 250,000 bear hunters may turn out in their red coats in late November to try to acquire one of these great trophies. Although only about one hunter in 1,000 may be successful, they come back year after year with no decrease in numbers.

Although Pennsylvania is not considered a top waterfowl state, there is good shooting to be had in the northwestern lakes and marshes, the broad Susquehanna flats above and below Harrisburg, and along the lower Delaware. Pymatuning Lake in Crawford County has a substantial Canada goose population which provides plenty of sport in the late fall.

Beside the game animals already mentioned, such exciting and rare animals as otters, elk, bobcats, and beavers give the outdoor photographer and nature student an opportunity for added pleasures. Most of these are found in the vast expanses of forest in the northern half of the state, although beavers are well distributed in almost every section.





Buck and antlerless deer seasons are held separately. The regular rifle season is in December, while bow and arrow enthusiasts hunt in October.



Wild turkeys lure many sportsmen to state. Almost extinct a few years ago, wild turkeys are now plentiful in forests.



This year Fish Commission stocked 2.25 million legal-size trout for anglers' pleasure

The fisherman is as well blessed as the hunter when it comes to variety. Suitable mountain and meadow streams have brook, brown, and rainbow trout. The Fish Commission's hatcheries produced upwards of 2.25 million legal trout this year, and every one was stocked before and during the season.

One of the signal attractions to the trout fishermen is the famed "Fisherman's Paradise" near Bellefonte in Center County. This carefully managed stretch of Spring Creek is "loaded" with giant trout, often weighing up to 10 and 12 pounds. Anglers are required to use flies only with barbless hooks and may kill only one trout each visit. Thousands flock to this spot each season to try for the great lunkers lying like cordwood in the better pools.

The state's lakes, ponds, dams, and larger streams contain both largemouth and smallmouth bass, muskellunge, walleyes, northern pike, chain pickerel, catfish, carp, and many kinds of panfish. The vicious muskellunge has been confined to the lakes and rivers of the northwestern corner until recently, but

now the Fish Commission is introducing this species into other waters in several parts of the state.

Some excellent smallmouth bass and walleye fishing can be found in the Delaware, North Branch and Main Susquehanna, Juniata, and Allegheny rivers. Many tributary streams also have good smallmouth fishing. In the Pocono region of northeastern Pennsylvania, winter fishing through the ice for pickerel, perch, and smelt has become a very popular sport.

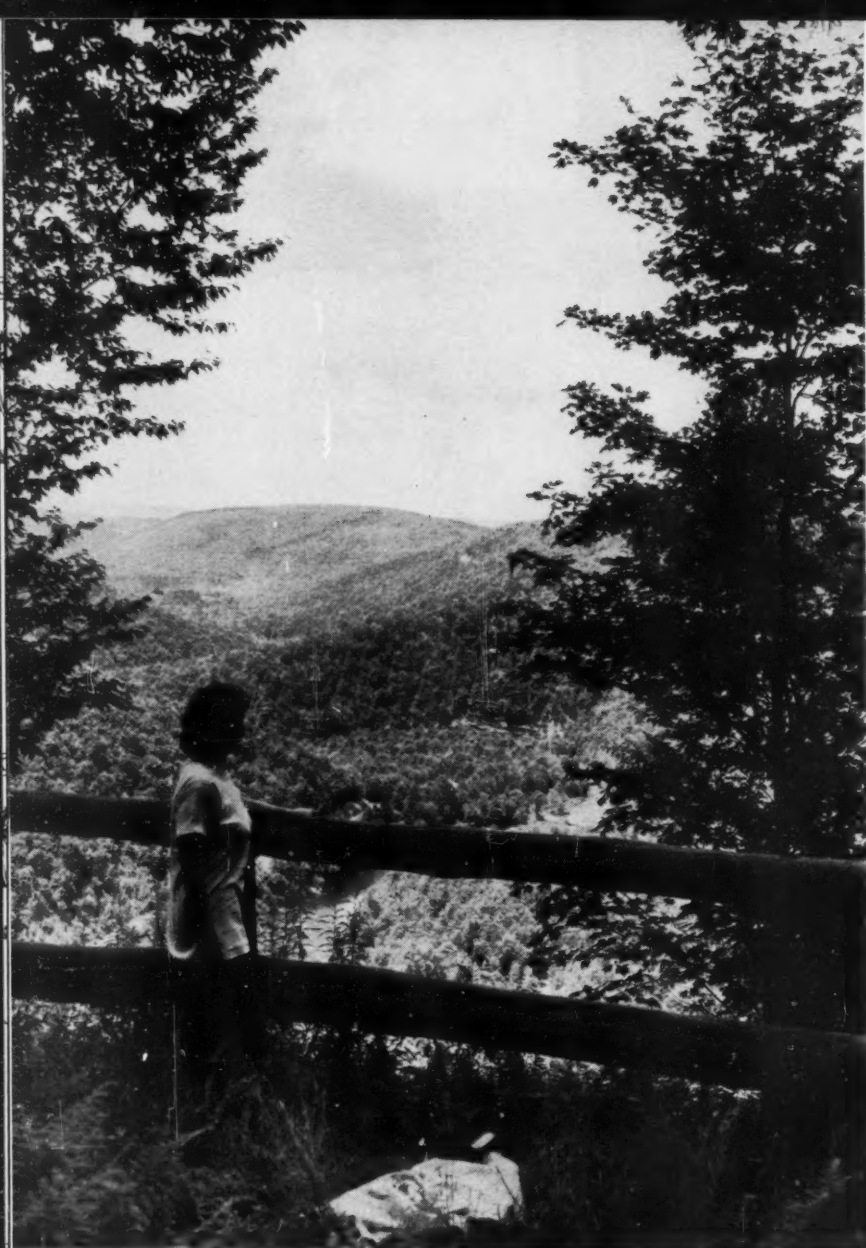
For those who want to go swimming, hiking, boating, or picnicking, Pennsylvania has a network of parks covering every part of the state, and the number is growing yearly. The ultimate goal is a state park within 25 miles of every citizen living in the commonwealth. To these he can go for relaxation and fun, for the opportunity to broaden his knowledge of nature, and for physical and mental rejuvenation.

That these needs are recognized is evident from the records. This year, the attendance at all state parks will probably exceed 30 million. Other millions will visit or use the state forest lands, state game

lands, and the Allegheny National Forest area.

The Pennsylvanian can be thankful and proud that in spite of the high population, great industrial development, and expanded communications facilities, there still exists the opportunity for almost unlimited recreation. Within the "templed hills" of Penn's Woods he can shoot a wild turkey for his Thanksgiving dinner just as his forefathers did 300 years before. He can catch a creel of native brook trout on undisturbed and unpolluted mountain trout streams. He can marvel at stands of giant virgin timber or at acres of laurel or rhododendron in bloom. He can count 50 deer in an evening's drive or watch the busy beaver at work on any one of a thousand dams.

Yes, Pennsylvanians are lucky, and they are going to become even luckier as they learn to recognize completely the desirability and indispensability of outdoor recreation. With their approval and their backing, state and federal conservation and recreation officials can and will bring the benefits of the out-of-doors to every willing man, woman, and child.



Two million acres of state forests provide recreation for Pennsylvanians in splendid scenic settings. Last year twenty million people visited state parks in Pennsylvania



TO recount the stages and steps which led to the acquisition of the first State Forest Reserve in 1898 is a subject well justified for individual discussion, but perhaps too lengthy for this article. Suffice it to say that the historical pathway is lined with fascinating incidents. The dedicated efforts of individuals from William Penn to Dr. Joseph T. Rothrock are found recorded in scattered and sometimes unrelated records.

The acquisition of 40,000 acres of forest land in Clinton County was the first step taken under the act of

1897, which permitted buying of tax-delinquent forest lands "for the growth of trees, preservation of water supply, and protection of the people and property against floods." Today, more than 1,875,000 acres of state forests are located in 40 counties of the commonwealth.

Ten years ago, equipped with scientific management plans, the Department of Forests and Waters launched a program for harvesting increased wood products from the state forests. Thus, management and utilization began in earnest some 50 years after the first land ac-

quisition. Harvesting of the partial yield at 10 or 15-year intervals is part of the plan. Each succeeding periodic cut is definitely aimed at improving the quality and yield of the remaining stands. From a very meager timber cut in 1952, the annual harvest rose to 25,000,000 board feet in 1958. This still represents only half of the actual annual growth. More important perhaps is the impact of the state forest management program upon people. The wealth this single operation creates annually is estimated to be more than \$1,750,000, benefiting hundreds of families.

Re-Building

PENN'S WOODS

By RALPH C. WIBLE

State Forester, Pennsylvania

Foresters with Co-operative Forest Management program assist thousands of woodlot owners in Pennsylvania who harvest timber on a scientific basis



Cook Forest State Park is one of the virgin forests preserved by the state

I was so amazed with one example of the economic impact of this program that I must relate it here. While engaged in supervising a timber sale on state forest land in Sullivan County some years ago, I was determined to find the actual monetary value of our operation to the community. Selecting a large yellow poplar containing 1,000 board feet, cost records were kept step by step of the labor expenditures from the time the tree was cut until it was hauled out of the county in the form of lumber. The numerous op-

(Turn to page 69)

WATER FOR THE F

MOST of us, in our childhood, were quite familiar with the story of a lad who destroyed a giant by simply cutting a bean-stalk from beneath the giant's feet. While Jack severed this giant's earthly connections with a single stroke of his axe, there are other less abrupt, but equally effective, methods of bringing a giant to earth. One of the surest ways is to cut off his water supply and let him die slowly of thirst.

Pennsylvania's current status among the states as an industrial giant (or, to be more correct, giantess) is well known, for she leads the nation with her output of basic commodities.

Unlike the case of Jack's giant, who was certainly up to no good, the continued well-being and expansion of Pennsylvania as an industrial giantess is essential to the progress and welfare of her citizens

and to the nation as a whole. Water and progress go hand-in-hand. Pennsylvania's development into a leading state in industry, agriculture, recreation, and commerce has always been dependent upon an abundant supply of good water.

Recognizing this fact, Pennsylvania is participating in a number of integrated watershed development plans that are unique in the nation. Mother Nature blessed her with more rivers and streams than any state in the union, and an average rainfall of approximately 42 inches, exceeding the national average by about 40%. Her 4,400 streams of various size are located in five major drainage basins; the St. Lawrence, the Delaware, the Susquehanna, the Potomac, and the Ohio.

Early settlers used her waterways for transportation, industry, commerce, and expansion. Urban growth

has traditionally followed her rivers and streams, as have the railroads, highways, power lines, and other utilities. As Pennsylvania's bountiful water supply shaped her past, so must it shape her future.

The exploitation of our natural resources in building our present economy has been, to say the least, wasteful and destructive, and we have now begun to realize that even in the face of abundance, shortages of good water can and do occur. Even now, water that we require is not always available in sufficient quantity and of the desired quality for immediate and specific use at the time and place we need it.

As our population and industry have increased, the amount of water required to meet our daily needs and our types of water use has multiplied. It is obvious that more water is needed for domestic use by our growing towns and cities. New industrial techniques, the harnessing of atomic power, new and varied uses of water — such as water for air conditioning, automatic washing machines, home swimming pools, etc.—have all brought with them increasing demands for water. The conflict and competition between the myriad uses for water of specific quality and quantity poses a basic problem which has been becoming more pronounced in recent years. Whether the commonwealth progresses from this point on, or deteriorates, will, in large measure, depend upon the availability of good water to meet the demands of all uses.

As in the federal government, the authorities for the various phases of water development, management, conservation, and control are divided among a number of commonwealth agencies. These agencies include, in part, the Department of Forests and Waters and the Department of Health, with their respective administrative boards, the Water and Power Resources Board and the Sanitary Water Board; the Pennsylvania Fish and Game Commis-

Map published by University of Chicago shows that Pennsylvania has one of country's most acute flood problems. In 1955 state launched extensive control program



By **ALLEN J. SOMMERVILLE**
*Chief Water Resources Engineer
Department of Forests and Waters*

E FUTURE

sions; the Topographic and Geologic Survey of the Department of Internal Affairs; the Department of Agriculture and the State Soil Conservation Service; and the Department of Commerce.

While this array of agencies, each with separate functions and programs, would seem to be unwieldy, the secret of the commonwealth's success lies in the close co-operation of these agencies among themselves and with their counterparts in the federal and local governments, as well as the close co-ordination of all water programs.

Space will permit us to touch on only a few of the commonwealth's past and present major water programs—programs that have made Pennsylvania one of the progressive leaders in the field.

Recognition of an existing problem is, of course, the first step toward solution, and Pennsylvania has always been noted for her prompt and effective action in meeting those problems attendant to natural disasters—flood and drought. The commonwealth's ample rainfall, her geographic location in relation to the principal storm paths, and her mountainous terrain with narrow valleys and steep slopes have made her particularly prone to the hazard of floods. Her pioneer work in the fields of flood control and flood forecasting was born of sheer necessity.

In the years 1950 through 1958, for example, the commonwealth, through the Flood Control Division of the Department of Forests and Waters, has completed \$16,729,300 worth of flood control projects, ranging from those of a permanent nature to those involving emergency stream clearance and channel rectification. By the end of 1958, another \$13,904,878 in projects were proposed, under contract, or under construction. During that period, 14 permanent flood control projects, including George B. Stevenson Dam, a major flood control reservoir, were completed, as well as some 188 non-disaster stream clearance and 251

**There are more rivers and streams in
Pennsylvania than in any other state**





The George B. Stevenson Dam, located on the first fork of Sinnemahoning Creek, is the largest dam structure built by the state. Pennsylvania has spent almost \$17 million on flood control projects since 1950

emergency channel rectification and debris removal projects. Under contract, design, or construction were 28 permanent flood control projects, 24 non-disaster stream clearance and 36 emergency stream clearance projects.

This all adds up to an enviable record of accomplishment—a record of action in meeting flood problems. Needless to say, however, the commonwealth cannot hope to solve all of the problems facing her in the field of flood control without federal aid and co-operation. Accordingly, the work of the U. S. Army Corps of Engineers within the commonwealth's boundaries constitutes a major and continuing program. The corps has five major flood control structures currently under construction: Dyberry, Prompton, Bear Creek, Stillwater, and Kettle Creek, with two more, Kinzua and Shenango, nearing that stage. The U. S. Soil Conservation Service's small watershed program under P. L. 566 is now well under way.

A recent and outstanding project from the standpoint of engineering was the emergency construction of the Port Griffiths cofferdam in the Susquehanna River by the Department of Forests and Waters. The cofferdam was constructed to enable the Department of Mines and Min-

eral Industries to seal a river breakthrough into the Knox Coal Company mine—a breakthrough which had cost 12 lives and had threatened the coal industry of the Wyoming Valley.

A flood control study of the Juniata River Basin, a major tributary of the Susquehanna River, was completed by the Department of Forests and Waters in 1955. This study had one prime purpose: to develop the most economical means of controlling floods along the major streams in the Juniata Basin. At the time the study was made, only limited consideration was given to hydroelectric power, low flow regulation, water supply, recreation, and other water usages. Although the planned development, which includes nine flood control reservoirs and four local flood protection projects at a total cost of \$32,306,200, is economically justified from the standpoint of flood control benefits alone, full attention during final design of the individual projects will be given to the inclusion of any or all of the other items found to be necessary and feasible.

We know that comprehensive planning and judicious control of our water resources are the tools that we must use to maintain our current prosperity and assure adequate

supplies of good water for future prosperity and development. In short, if we are to continue to progress, we must take steps now to insure that progress. Our experience with Pymatuning Reservoir in northwestern Pennsylvania proved to us long ago that multi-purpose usage of reservoirs for purposes such as flood control, recreation, and increased water supply through low-flow augmentation can be compatible.

Following the disastrous floods of Hurricane Diane, the Corps of Engineers, U. S. Army, Philadelphia District, was enjoined by the Congress of the United States to restudy the Delaware River basin with the ultimate objective of preparing a basic plan for the optimum development and control of the waters of that basin. This study, at the present time, is nearing completion, and the forthcoming plan of development, being wholly comprehensive in nature, will be designed to satisfy the water needs and requirements of the basin area to the year 2010 through progressive development and construction of the individual projects as recommended and required.

Because of the complex problems involved in meeting all of the varied water demands of the four-state

area dependent on the Delaware—water supply, flood control, recreation, hydroelectric power, water quality, fish and game, navigation, etc.—the corps solicited the help and co-operation of other federal agencies, state agencies, and local interests, specializing in the various fields, in preparing the study.

The final decision in regard to the implementation of the basic plan will, of course, be that of the local people as they are confronted with the need to develop additional sources of water supply to meet growing requirements. Construction agencies for any individual project presented in the basic plan could conceivably be any combination of federal, state or local interests as the particular situation and circumstances dictate.

Each of the four states involved, the cities of New York and Philadelphia, and the various federal agencies are represented on the Delaware River Basin Survey Co-ordinating Committee. This organization serves as a medium for the exchange of ideas and suggestions relative to the water requirements of the various areas and to the various phases and progress of the study. Interested commonwealth agencies are afforded the opportunity to keep up with the study and to review and comment on all material, as released by the corps, through the office of Secretary Maurice K. Goddard, Department of Forests and Waters, co-ordinator for Pennsylvania.

It is, of course, still not known exactly what combination of facilities will form the corps' basic plan. We can be assured, however, that the plan, when released, will indicate the most economical means of developing the waters of the Delaware to the best advantage of the citizens of that basin.

The Department of Forests and Waters has recently completed a comprehensive study and plan of the water resources of the Brandywine Creek Basin in Pennsylvania to the year 2010, in co-operation with the U. S. Soil Conservation Service. This study parallels that of the corps on the Delaware, and was undertaken at the request of the various local municipalities, industries, and organizations. It was realized that the corps' plan for the Delaware Basin, being an overall plan or framework, would not necessarily solve strictly local water supply problems on all small basins within their study area.

Under the Brandywine Plan, the

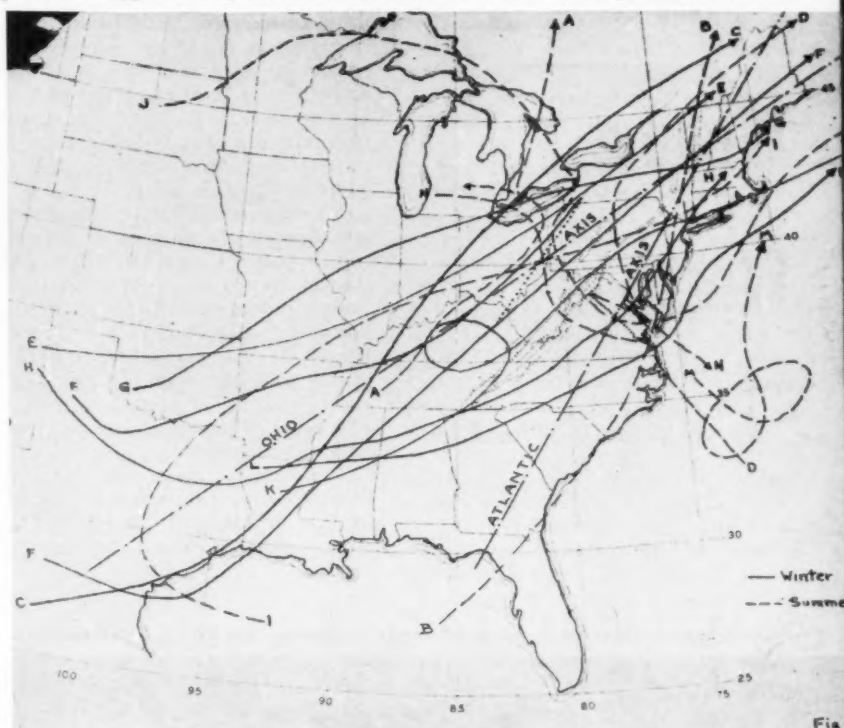
federal government would foot the bill for flood control features, the commonwealth for water supply and recreation, and the local people would be responsible for relocation of utilities, rights-of-way, etc. The plan envisions the progressive development of 11 reservoirs and one channel improvement project at a total estimated cost of \$11,455,600. Each reservoir has recreation potential to

some degree with badly-needed state parks planned for two of the major multi-purpose sites.

Legislation to begin work on the Brandywine Project is currently before the Pennsylvania Legislature. Implementation of this plan will assure continued prosperity and growth to the people of the Brandywine Valley.

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Weather map of major storm patterns graphically reveals how Pennsylvania's flood problem is aggravated by the fact that almost all of these storm patterns cross state



Little Pine Creek Dam, on Little Pine Creek in north central Pennsylvania, is part of the comprehensive flood control program for the West Branch of the Susquehanna.



Perpetuating Penn's Woods West

By **MARSHALL STALLEY**

*Executive Director
Western Pennsylvania Conservancy*

PENNSYLVANIA to many people means Penn's Woods—a virgin forest that once belonged to William Penn. Over the decades much of the flora and fauna have given way to the pressures of an urban society, and the ever-expanding residential, commercial, and industrial requirements of a growing population.

It's a familiar story—population explosion, urban sprawl, and commercialization, with “mother nature” coming out second best in the competition for space. However, it is not the purpose of this statement to recite the failures of the past, as seen by conservationists, but rather to report on what is being done to conserve significant natural areas in western Pennsylvania.

An organized effort is under way by a group of conservation-minded people banded together in an association known as Western Pennsylvania Conservancy. It has as its purpose “Perpetuating Penn's Woods West.” More specifically, its goal is to conserve areas of biologic, geologic, historic, or scenic interest—also areas of potential use for state park development.

This is a report on Western Pennsylvania Conservancy (which in this article will be referred to more briefly as “the conservancy”).

It is a review of what this group has done to save significant natural areas. It is also offered as an example of what can be achieved through a partnership of public and private effort—co-operation and teamwork between the Pennsylvania Department of Forests and Waters and the conservancy—whereby a private non-profit association of individuals has “anticipated” the government's requirements for additional parks, and has contributed as citizens to conservation and state park development.

Two decades before the establishment of Western Pennsylvania Conservancy, its predecessor organization was formed. A small group of citizens formed the Greater Pittsburgh Parks Committee in 1931. The next year the group became incorporated as the Greater Pittsburgh Parks Association.

With a grant from the Buhl Foundation, a program of park studies and planning was initiated. A few years later the landscaping of one of Pittsburgh's highways, Bigelow Boulevard, was achieved through the efforts of the association. This project made a significant and lasting contribution by demonstrating the value of landscaping along major highways. A forerunner of the

Commercialization threatened scenic Ohio pyle peninsula, but Edgar J. Kaufmann's contribution enabled conservancy to preserve it



modern parkway, the planting of this boulevard was made possible by a grant in 1940 from the W. L. and May T. Mellon Foundation.

Financial support from foundations continued. In 1942 the Buhl Foundation made a grant for a parks and playground planting program.

In 1944 a committee of the Greater Pittsburgh Parks Association was formed to secure funds for the purchase of a significant natural area known as McConnells Mill, located 40 miles north of Pittsburgh. A total of \$20,000 was raised privately and 134 acres were purchased—the McConnells Mill tract and other properties in the vicinity along the Slippery Rock Creek. This was the initial effort which was to make possible a decade later the provision of a new state park—the McConnells Mill State Park. Also, it was the first example of the association's method of preserving significant natural areas through acquisition and ownership under its own auspices.

A course had been charted. In 1950 the Allegheny Conference on Community Development, the organization which has sponsored Pittsburgh's civic redevelopment program, formed the Recreation Conservation and Park Council. This group took an over-all look at

conservation and park requirements in the Pittsburgh region. It recommended a substantially larger land acquisition program in the McConnells Mill area.

The Recreation Conservation and Park Council itself was not equipped to acquire and hold land. The Greater Pittsburgh Parks Association could perform this function. A broader area approach was needed, and additional membership from surrounding counties was regarded as desirable. The result was that in 1951 the Greater Pittsburgh Parks Association was reorganized as Western Pennsylvania Conservancy. Its purposes and membership were broadened.

Shortly after the establishment of the conservancy, a scenic peninsula, located 70 miles southeast of Pittsburgh at Ohiopyle in Fayette County, was threatened by proposed commercialization. Through a grant, at the time anonymous, from the late Edgar J. Kaufmann, Pittsburgh philanthropist and business leader, the peninsula was purchased by Western Pennsylvania Conservancy. Thus, the preservation of Ferncliff Park, as the peninsula is called, was assured.

During the same year, through the contribution of garden clubs of

Butler County, the Western Pennsylvania Conservancy acquired the Blazing Star Prairie, a 20-acre area, near Slippery Rock north of Pittsburgh. This is the first "parklet" in Pennsylvania for the perpetuation of a wildflower. The area was officially named the Jennings Blazing Star Prairie in honor of Dr. O. E. Jennings, Director Emeritus of Carnegie Museum and a great biologist and conservationist.

Another significant development took place in 1951. The Western Pennsylvania Conservancy, then under the chairmanship of Charles F. Chubb, agreed to acquire land to extend the McConnells Mill tract into a major park in the Slippery Rock-Muddy Creek valleys in Lawrence and Butler Counties.

Under the impetus of a grant of \$50,000 from the A. W. Mellon Educational and Charitable Trust and \$100,000 of matching money from the same foundation, a total of over \$250,000 was secured from individuals, corporations, and foundations, including a grant of \$10,000 from the Buhl Foundation.

Over the years the Pennsylvania Power Company had acquired more than 900 acres south of McConnell's Mill and preserved it. An agreement was obtained by the conserv-

Conservancy acquired 2000 acres at McConnells Mill then transferred to Department of Forests and Waters for state park



ancy with the power company to acquire its acreage at a cost substantially less than the original purchase price, and with the condition that adjacent tracts would be added and that the deep gorge would be preserved in a natural state.

Further land was acquired by the conservancy. Almost 2,000 acres of the Slippery Rock Gorge were re-sold to the Department of Forests and Waters of the Commonwealth of Pennsylvania for a portion of its original cost. The transaction was completed in 1956. Thus, officially, a new state park was created and, at the same time, a basis laid for the establishment of another conservancy project, the proposed conservation-park development in the Muddy Creek Valley.

A major project of the conservancy today is the creation of a new state park in the Muddy Creek Valley. The progress achieved thus far toward the accomplishment of this goal is in part the result of the application of the conservancy's experience in the development of McConnells Mill State Park.

In its over-all planning the conservancy regards the area along the Slippery Rock Creek, now the new state park, as one element of a broader design. The larger objective is an over-all conservation and park development in the Slippery Rock-Muddy Creek region of Lawrence and Butler Counties.

A few short years ago the proposed Muddy Creek project was a dream only. But with faith in the validity of the concept, steps were taken to bring it to reality.

After the park land along the Slippery Rock Creek in the vicinity of McConnells Mill was assured, the

conservancy moved to acquire land in the Muddy Creek area. As land became available it was purchased for that purpose.

Today the conservancy owns 2,349 acres of land in the Muddy Creek Valley—not enough to provide the kind of park which is envisaged.

A broad plan has been conceived. It calls for a dam to impound a 10-mile long lake with a 40-mile shore line.

More land will be required, more planning, and more funds, public and private, to bring this dream to reality.

A start has been made. The land owned by the conservancy has been offered to the Department of Forests and Waters of the Commonwealth of Pennsylvania.

To determine the feasibility of the proposed state park in the Muddy Creek Valley, an exploratory study has been completed. It is a preliminary study and not a detailed plan of development.

Under an agreement with Secretary Maurice K. Goddard, of the Department of Forests and Waters, Community Planning Services, Inc., a private planning firm, was engaged to prepare a master plan and capital improvement program for the McConnells Mill State Park, which had been recently acquired by the commonwealth.

Concurrent with the study of the McConnells Mill area, Secretary Goddard deemed it advisable to have prepared an exploratory study of the Muddy Creek area. The study was known officially as "Exploratory Master Plan for McConnells Mill State Park and Potential State Park in the Muddy Creek Valley, Lawrence and Butler Coun-

ties." The study had a long name and was a big project.

The study was completed in the spring of 1958. There were many findings and recommendations. It proposed a comprehensive program for further land acquisition and development in the Slippery Rock area for McConnells Mill State Park.

Most important, it concluded that the dream of the conservancy to locate a large park-conservation development in the Muddy Creek area was not only desirable but realistic.

In general terms, possible locations for the dam, lake, and park area were suggested. The report recommended that a dam be built at what is known as Portersville Station. This is the location suggested several years ago by Dr. Frank W. Preston, geologist and member of the conservancy's board of directors.

The proposed dam at Portersville Station had been recommended by the Western Pennsylvania Conservancy in 1950, but engineering studies were now required. Moving with dispatch, the Department of Forests and Waters had test core borings made in several locations during the summer of 1958.

The location of a dam at Portersville Station was shown to be feasible for construction purposes. Sub-surface conditions were found to be satisfactory.

In the fall of 1958 Secretary Goddard met with the directors of the conservancy in Pittsburgh. In response to a proposal from conservancy president Charles F. Lewis, Secretary Goddard announced his support of the proposed state park in the Muddy Creek area. He backed it up by allocating \$250,000 of state funds to cover initial costs for the preparation of plans and land acquisition.

The project received the immediate endorsement of the two gubernatorial candidates, and subsequently has received vigorous support from Governor David L. Lawrence, who had previously given it his support as mayor of the city of Pittsburgh. In January, 1959, additional evidence of support from public officials was made known when the Board of County Commissioners of Butler County passed a resolution in favor of the project as did the Board of County Commissioners of Allegheny County.

Upon the request of Secretary Goddard in the fall of 1958, the con-

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Candidates for AFA Board Named

The American Forestry Association's Committee on Elections, consisting of H. B. Shepard, Chairman, Paul M. Dunn, and Arthur W. Greeley, has selected the following slate of candidates for directors of the association, to serve for 3-year terms beginning January 1, 1960, through December 31, 1962. Ballots will be mailed to the membership prior to November 1, which should be returned to the association, 919 17th Street, N. W., Washington 6, D. C., so that they will be received on or before the voting deadline, November 30, 1959.

FOR DIRECTORS (For 3-year terms—5 to be elected)

Wilson Compton, Virginia

George Wall Merck, New Jersey

Albert Ernest, Florida

Carl F. Rehnberg, California

Frank E. Masland, Jr., Pennsylvania

James J. Storrow, Massachusetts

Peter F. Watzek, Arkansas

In accordance with the By-Laws, the President, Vice President, Treasurer, the five Regional Vice Presidents, and the twenty-one Honorary Vice Presidents are elected annually by the Board of Directors.



Sunlight filters through brilliant hues of oak, maple, and other woodland coloring along Sycamore Mills Road in Delaware County

THE GYPSY DAYS

By JANE CARTER

THESE are the gypsy days of the year. A carnival of color dances over the hills and valleys, and we are seized with wanderlust. By mid-August the deepening burgundy of the sumac struck our eye, and by mid-September the dogwood leaves had begun to tinge until, as one young observer remarked, they looked like dried beef.

By October the quiet russet of ash and beech seem ablaze with each sunrise, and the horse chestnuts drip rusty, shriveled leaves. Already the black walnuts, last to leaf out in the spring, lift skyward bare, spectral branches on which only an occasional knobby nut remains. Somehow the autumnal tulip poplars always remind us of an old-fashioned churn full of butter, while the maples become red and yellow paper lanterns through which the sun filters magically.

The masses of scarlet swamp maple seem to climb the hillsides in

reflecting sweeps of false red top grass. A branch at a time, the oaks begin to color until their sturdy limbs are draped in blood-red trappings. In many cases these oak leaves, brown and shiny, will cling to the tree all winter long. Of all the trees, the oak and the beech appear to have least acquired the leaf-shedding habit familiar in our northern climate; further south most deciduous trees retain their leaves over the winter.

Of all the autumn reds, however, we favor most the black gum. Each October we watch a single tree rise like a pillar of fire from our neighbor's marshland. Anyone bringing a spray of this bright tree into the house will be rewarded with weeks of beauty. The shiny, leathery leaves do not wilt and dry in the warmth of the home as do those of other tree families.

Few parts of the world have autumns as brilliant as those of our

area, which includes the northeastern states and Canada. Only on the wooded slopes of the Swiss Alps and along the Rhine and the Danube do long, dry autumns produce comparable foliage. Visitors from our southwest, or from California, where the cottonwoods and eucalyptus moult dully all year round, marvel at the dazzling tree plumage of the east.

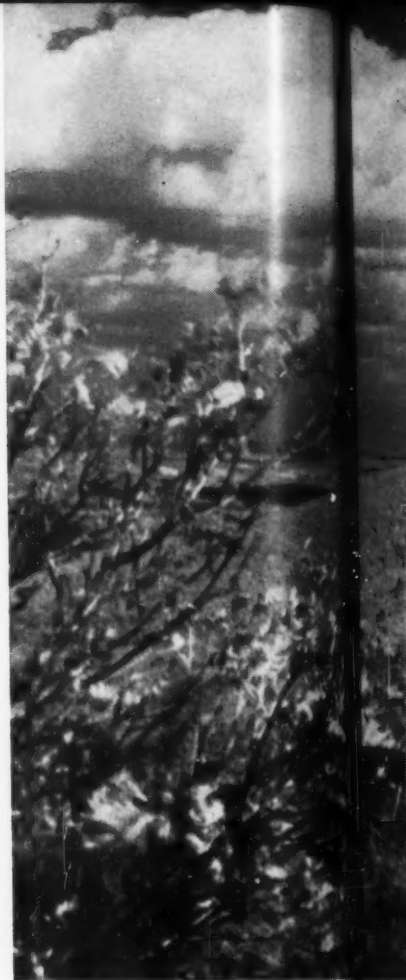
We inquired of some scientist friends as to why the leaves turn and received answers as diverse as the colors themselves. Jack Frost, they seemed to agree, plays but a coincidental role in painting the leaves in brilliant hues, for the frosty nights of autumn are but a part of the great complex of nature to which the trees are geared.

After the peak of midsummer daylight hours is reached and the sunshine begins to wane, the sap leaves the outer edges of the leaves and

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By NATHANIEL KRUM

THE MAN FROM HAWK MOUNTAIN



IT IS unlikely that many of the men and women who strolled through the Public Gardens in the heart of Boston on a memorable day in May, 1920, paid much attention to a slight lad of thirteen who had wandered into the park and stood wide-eyed watching an adult group of bird lovers focus their binoculars on the greening willow branches overhead. Yes, most of them didn't even see the lad. But one "tall, gracious," keen-eyed member of this Audubon group spied the entranced face of the boy, walked over to him, and said kindly, "Here you are, Sonny. Use my binoculars. You can see that bird much better with them."

"Thanks a lot, Ma'am," the boy replied, as he took the glasses and

Broad-winged hawk perches on shoulder of Maurice Broun, curator of sanctuary



Bird-watchers at the lookout of Hawk Mountain Sanctuary, a 2,418-acre inviolate wild-life refuge. Here at 1540-foot elevation, fall flights of hawks and eagles are observed

raised them to his eyes. And at that moment he saw it. The woman said it was a magnolia warbler. In the upper reaches of the willow it flitted nervously, gracefully. Its brilliant plumage of deep yellow, black, and white charmed the lad, and while it sang its *weeta, weeta, weeta* he thought, "This is truly the most strikingly beautiful thing my eyes have ever seen."

The kind, observant woman was Edith McLellan Hales. To others in the park this lad was just another city urchin. But not so to this gracious woman. Her kind act planted in the heart of this city lad a love for birds that grew into a consuming passion, and bore fruit in a wealth of knowledge that has made this erstwhile New England youngster one of the leading ornithologists in America today.

That lad was Maurice Broun,

present curator of Hawk Mountain Sanctuary. I first met Broun in September, 1953, on my initial trip to the sanctuary, which is perched astride Kittatinny Ridge, near Drexelsville, Pennsylvania. I passed through the village, climbed the long, winding road that leads past the sanctuary entrance and over the mountain to the white-washed, 200-year-old Pennsylvania Dutch cottage known as "Schaumbach's." It is in this restored historic home that Curator Broun lives and has his office.

After parking by the spring across the road, I stepped to the door and knocked. Irma, Broun's artistic wife, came out and greeted me warmly. I asked to see Broun, and in a moment he was at the door.

Following a friendly greeting, he invited me to accompany him to the large porch that extends the full length of the back of the building.

From this point I could see the small birds that flitted among the lilac and other bushes that grow along the yard fence. The brush piles, purposely left below the apple trees in the pasture, were alive with birds. Feeders, traps for banding, and bird boxes were placed here and there. Broun said, "I have counted 212 species of birds here at the sanctuary."

After my brief visit on Schaumbach's porch, I was invited to look around the sanctuary. Everywhere I saw evidence of Broun's meticulous care and inventive genius. Here was not the work of a hireling, but instead the lavish results of one who loves his job with the same deep-down love he has for the birds.

Young Broun's discovery of the brilliant warbler was followed by five years of intensive study with borrowed books and binoculars.



Afire with a love for birds, he made many trips by streetcar to the Chestnut Hill area of Boston, which in those days abounded with bird life. Here he studied birds closely, noting all the identifying marks.

Broun was fortunate early in life in securing a job in the State House, in the Massachusetts Department of Agriculture, under two outstanding bird authorities: Edward Howe Forbush, for forty years state ornithologist of Massachusetts, and his assistant, Dr. John B. May.

Working with these men of large experience was a scientific education in itself, and also a great inspiration to Broun. He assisted Forbush for three years in the compilation of his monumental *Birds of Massachusetts and Other New England States*.

Dr. May was an authority on hawks, and it was from him that Broun received his first love for these fascinating birds of prey. This love made him willing, in later years, to accept the prodigious task of developing the first hawk sanctuary known to man.

Upon leaving the Massachusetts Department of Agriculture in 1929, Broun went to Lenox, Massachusetts, where he pioneered the Pleasant Valley Bird and Wild Flower Sanctuary. This sanctuary then consisted of three hundred acres of woodland on the side of Lenox Mountain. Here Broun built and put up many bird houses and feeding stations, and routinely banded hundreds of birds.

It was while Broun was at Pleasant Valley that he became interested in the ferns that thrived on its slopes. He was so impressed with their lacy beauty that he decided to study them seriously. So persistent were his efforts that a few years later he had assembled an outstanding collection of ferns whose habitat ranged from Canada to Mexico.

When asked what state he considers best for the study of ferns, Broun unhesitatingly replied, "Florida, of course, comes first; but Vermont is a close second. It is a veritable fern-lover's paradise, with seventy-eight species."

Broun's interest in ferns led him to publish an *Index to North American Ferns*. This authoritative work of reference is found in the libraries of many colleges and universities,

From lookout, the bird-watchers scan distant ridges for migrating hawks and eagles



Evening grosbeaks swarming at feeders back of Schaumbach's, Curator Broun's home. During winter of 1957-58, about 2,000 birds used the feeders, but none appeared the first winter

and is frequently referred to by botanists. Requests for copies have come from Denmark, Brazil, and Japan.

After Broun left Pleasant Valley Sanctuary, he became a research associate at the Austin Ornithological Research Station, on Cape Cod, where, between 1931 and 1934, he banded over 40,000 birds.

After leaving Cape Cod, Broun became resident naturalist of the Green Mountain Club, at the Long Trail Lodge, home of the club, in Sherburne Pass, Vermont. It was here that he spent the next nine summers—May 15 to September 1—summers filled with intense activity. Major projects were the laying out of a half-mile nature trail, with plants, rocks, and other objects ingeniously labeled. Here he first displayed his unique ability to develop originally worded and constructive trail signs. His Bog Garden, which took four years to build, contained

more than 400 species of native plants.

It was while Maurice was at Cape Cod that he met Irma. "She was slight and wiry, and quick as a bird; and she was unbanded," says Broun. Since their interests were similar, they spent many happy hours together, combing the beaches for tern chicks, and banding hundreds of them. Sometimes they trapped adult terns on the nest. This caused their companions to protest vigorously by screaming and diving at the heads of their captors, often drawing blood with their sharp beaks.

Maurice and Irma also visited the night heron rookeries, which necessitated penetrating areas matted with poison ivy vines, crawling with wood ticks, reeking with foul odors of decaying fish, and infested with black clouds of mosquitoes and deer flies. But Irma enjoyed every minute she spent with him on these

trips, and never complained of the difficulties encountered. This characteristic assured Maurice that she was made of truly heroic stuff.

So it was that their friendship developed mutually, and Maurice joyfully "banded" Irma in New York in the summer of 1934. And she has proved just the right mate for a crusading naturalist. She is venturesome, independent, courageous, efficient, and artistic.

It was in 1932, while Broun was still at Cope Cod, that he first read in *Bird Lore* of the shocking slaughter of hawks and eagles at Dreher'sville, in east-central Pennsylvania. Atop Blue Mountain nearby, trigger-happy hunters by the hundreds were destroying thousands of migrating hawks for the sheer "sport" of killing. "How in the name of decency could this sort of thing be tolerated?" Broun asked. Perhaps he could do something. Little did

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HISTORIC GETTYSBURG

By MICHAEL FROME

THE significance in history of the Battle of Gettysburg—that is, the first battle—was the “testing and survival of the Union under fire.” But as you tour these sacred fields the greater issue becomes reduced to simple human terms, of sacrifice, desperation, and courage.

Gettysburg is an irresistible object of pilgrimage in our era of mobility. Here, on July 1, 1863, began the greatest battle ever fought on the American continent, involving 170,000 Confederate and Union soldiers. From many points in the National Battlefield Park, you can reconstruct the sequence of action of those three fateful days, aided by 2,390 monuments, markers and tablets. And you can stand where, a few months after the battle, Abraham Lincoln stated the American creed for eternity.

In the course of your tour, don't overlook the scope or the damage of the new battle of Gettysburg, in which commercial development—motel, spreading subdivisions, souvenir stands, beer parlors, automobile graveyards—is advancing in

strength against rather weak defense lines. The tragedy is that local interests in Gettysburg and national interests in Washington, which could do so much to preserve the battlefield boundaries from intrusion, have thus far done so little.

The reason for such encroachment? Of 3,400 acres designated as Gettysburg National Battlefield Park, nearly 700 are privately owned. When the park was established, these were farmlands and were expected to remain so forever. But population pressures, mobility, and Gettysburg's new suburbs have changed the perspective completely—and the lack of planning is now claiming its toll.

Is there anything you can do? Yes, the battle to halt and eliminate the blight is far from over. Learn the facts and state your views; the “Congressional skirmish” (as it is now called) resumes in January.

To appreciate Gettysburg fully, you should tour in company with a licensed guide (\$4.00), starting at the cannon that fired the opening

shot on the Chambersburg Road.

Lee and the Confederates had finally brought the war to Northern soil and at this point the opposing armies collided. With the guide, you'll drive to the Eternal Light Peace Memorial on Oak Hill, where the first day's action shifted, then along Seminary Ridge, which became the Confederate line. Here are stirring memorials like the North Carolina Monument, one of Gutzon Borglum's early works, and the classic Virginia Monument, showing Lee astride his horse Traveler.

Look out over the cannon, still in place, across the open field to the Union line at Cemetery Ridge. The third and decisive day opened with a blazing two-hour artillery duel. But it was only a prelude to the Confederates' daring gamble: the thrust of 15,000 men, headed by Pickett's division, across the open fields to pierce the Union center. Again and again their lines crumbled under withering fire, but they reformed and pressed on. One hundred men

(Turn to page 82)

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"I'm a one-man team that works the landing alone with the International Drott TD-15 Skid-Grapple," reports contract log-loader Leonard Yost, owner, Leonard Yost Logging Co., Medford, Oregon.



How TD-15 Skid-Grapple makes contract log-loader a "one-man team"!



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"I still have time to buck the logs, trim off limbs, and push loaded trucks through soft spots," concludes Mr. Yost. And his new 6-cylinder 115-hp TD-15 Skid-Grapple with Shuttle-Bar control has loaded 144,000 bf in one day! There's a big-capacity logger-designed International Drott Skid-Grapple among the many models to give you proven minimum crew advantages handling logs, lumber, pulpwood, or mill waste. See your International Drott Distributor for a demonstration!

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CHARCOAL BURNING IN HOPEWELL

By JOHN D. KENDIG

WHEN the English began to establish colonies in America, shortly after 1585, they found iron ore and great supplies of wood. And it is very likely that as early as 1700 the hardwoods of American forests—hickory, oak and chestnut—were being cut into cordwood and burned into the charcoal that was used as fuel in the manufacture of iron. So our trees played an important part in the founding of the great iron and steel industry of today.

In 1770 colliers began making charcoal from Mark Bird's forest land for use in his Hopewell Furnace near Reading in southeastern Pennsylvania. These lands comprised some 6,000 acres, and with help from some neighboring tracts they provided wood for Hopewell Furnace from 1770 to 1883.

This past summer, charcoal was again burned at Hopewell Furnace, but this time only in a single pile as an exhibit-demonstration of the National Park Service, which is now caring for and restoring this fine example of a typical early American iron-making settlement. The area is now known as Hopewell Village National Historic Site, and is located five miles southeast of Birdsboro, Pennsylvania.

A lifelong woodsman and professional collier, Elmer Kohl, stacked up the pile of wood, covered it with leaves and dirt, and burned it to charcoal in about two weeks. During this time he lived in a nearby tenant house and watched the acrid, smoking pile night and day. Thousands of people came on a single Sunday to see this fascinating example of early American forest and industrial work.

In the old days, an average furnace used about two and a half tons of iron ore and 180 bushels of charcoal to produce a ton of iron. Such a furnace burned about 800 bushels

of charcoal a day, which required 50 cords of wood from trees 20 to 25 years old.

The charcoal was the most expensive element in smelting iron, and more men around the area worked at it than at almost any other job there. Certainly it must have exerted considerable influence on the lives of the people involved. The expense of hauling often made it necessary to locate the iron furnace right out in the woods. As a rule a community soon grew up around it.

Such was Hopewell Village with its charcoal house, large water wheel and races, cold blast charcoal burning iron furnace, scale pit, blacksmith shop, carriage barn, iron master's mansion ("the Big House"), store and post office, tenant houses, boarding house for the single men,

(Turn to page 59)

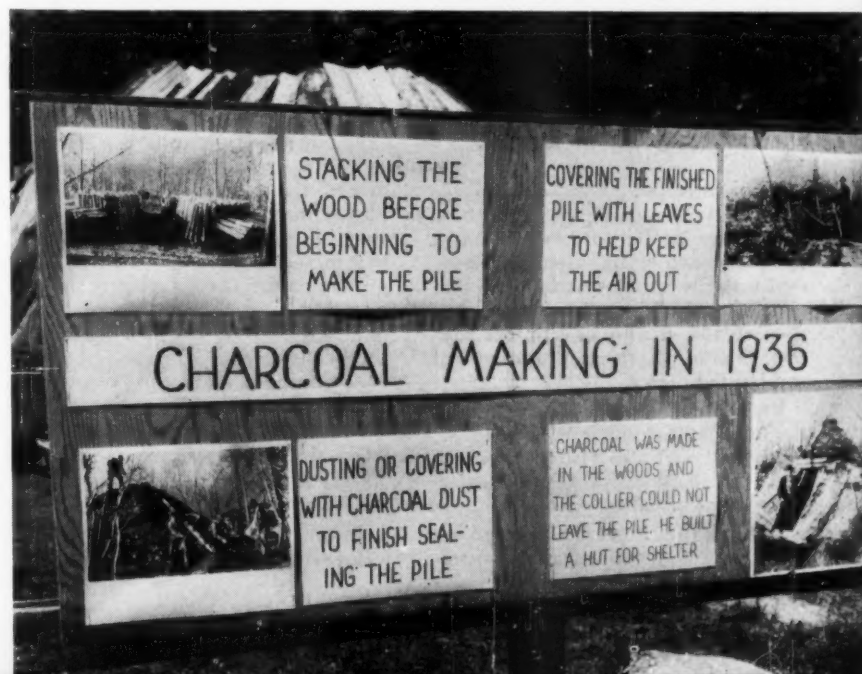


Cordwood will be covered with dirt and leaves, and then burned into charcoal



Patching holes prevents pile from flaming up, burning wood to useless ashes

On exhibit is a photo account of a somewhat similar charcoal burning held in 1936





Bedford Springs Hotel's 2300 acres of forest and watershed are operated as tree farm. In 1953, long-range management program was set up

BEDFORD TREE FARM

By R. H. BOMMER, JR.

ACROSS the United States, members of The American Forestry Association are awaiting their trip to historic Bedford, Pennsylvania, and the Bedford Springs Hotel, site of the forthcoming 84th Annual Meeting. This meeting will be held jointly with the Pennsylvania Forestry Association.

Located in the beautiful Allegheny Mountains, the hotel, one of the finest of its kind, is an ideal location for the meeting.

Not only is this fine resort hotel widely known for its excellent accommodations, but the century-and-a-half old hotel is famous for its continuous supply of medicinal mineral water.

The hotel, set in a valley of the Allegheny Mountains just south of the village of Bedford, was opened in 1804, two years after the mineral water was discovered. Since that time, the hotel doors have been open to a steady stream of summer visitors, including three Presidents of the United States.

President James A. Garfield used the hotel as a summer White House. The hotel was also visited by Presidents Buchanan and Polk during their terms of office.

Today, the hotel is host to as many as 200 meetings and conven-

tions each season, together with a steady stream of summer vacation visitors.

Bedford Springs Hotel makes an even more desirable location for the AFA-PFA meeting since the resort's 2,300 acres of forest land and watershed are operated as an American Tree Farm.

In 1953, the management of the hotel contacted a forest consultant to examine the resort's forest holdings and submit recommendations for managing the hotel lands.

After the examination, the forest consultant pointed out that by selective cutting of the forest land, as much, if not more water would be retained by the forest as was being retained by the old growth. It was also pointed out to the management that by harvesting the mature timber in such a manner as to provide growing stock for the future, the hotel could receive an additional source of steady income without destroying the beauty of the forests. The forest consultant was retained to draw up a long-range management plan for regular timber harvests. Just one year later, the hotel property was certified as a unit of the American Tree Farm System.

Since 1953, the management has followed the recommendations of the

long-range management plan, and well over three million board feet of timber have been cut from the property. As a result, the hotel has realized a steady financial return during that period.

Since the management plan was put into effect, harvesting has been done by the M. C. Houseworth Lumber Company of Bedford, Pennsylvania.

With much of the Tree Farm area intensively used for recreational purposes, logging without destroying the beauty of the forest land has always been a major concern. However, it is doubtful that many of the thousands of tourists and visitors who enjoy the hotel lands are even aware that timber has been cut from the property during the past few years.

The hotel management has discovered that good forest management has many benefits, among them the good will of neighbors and community, and, above all, proper care of a wonderful God-given heritage, our forests.

Nowhere else could you find a more suitable spot to discuss the theme, **RESOURCES AND PEOPLE—A CHALLENGE OF CO-EXISTENCE** than at Bedford Springs Hotel.



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Reading
about

RESOURCES



By MONROE BUSH

WATER, WATER, WHERE?

THE Conservation Foundation under Fairfield Osborn's direction has to its credit many significant studies in resource management, but none more brilliantly conceived or effectively executed than the Series of Studies in Water Resources.

With the widening acceptance of the multiple-use forestry concept, foresters have grown into a new appreciation of water management problems, and it is commonly perceived today that the forester is a key figure in any inevitably complex water equation. For this reason, the volumes comprising this Series in Water Resources should be of tremendous concern to every well-informed, broadly-capable forester.

Vegetation and Watershed Management by E. A. Coleman of the U. S. Forest Service is at the top of any reading list, and is no doubt the most useful of this series for the average forester.

Fresh Water from the Ocean by Cecil A. Ellis, while less important to the forester, should be of fascination and interest to everyone intrigued by the basic water problem.

The Flood Control Controversy by Luna B. Leopold and Thomas Maddock, Jr., is a long, honest look at the big dam vs. little dam argument.

The Law of Water Allocation in the Eastern United States, edited by David Haber and Stephen W. Bergen, perhaps the most limited of these studies, is nevertheless a highly important contribution in its specific area.

Now comes the newest and in many respects the most significant book in the entire series: **Water Facts for the Nation's Future, Uses and Benefits of Hydrologic Data**

Programs, by Walter B. Langbein and William G. Hoyt. (The Ronald Press, N. Y. 1959, 288 pp.)

While innumerable sections will be of concern to foresters, particularly an appraisal of data concerned with "Forest Management and Water Yield," the book as a whole warrants thoughtful examination.

Americans are an information-gathering people, given by nature to collecting, codifying, and interpreting data on every subject under the gentle sun. Many capable careers are dedicated toward these ends. Many millions of dollars are earmarked each year for these data-gathering purposes.

It is fascinating, therefore, to discover how inept much of this national effort is, especially in a field as fundamentally important as water management.

Authors Langbein and Hoyt have divided **Water Facts** into two sections: the first concerned with the process of data-gathering; the second given entirely to an appraisal of this "data in action," to a study of the uses that are and should be made of the data that is assembled.

The per capita use of water has doubled in this country with every generation. Yet the annual expenditure of federal and state governments for the gathering of basic water information is only one-half of one per cent of that invested by public and private groups for works in the use and control of water. Thorough documentation of this emphasis adds up to the conclusion that most water management projects, however urgent and costly, are based upon inadequate, insufficient data—are, in a phrase, half-cocked.

Indeed, "the programs for gather-

ing hydrologic data are more aggregations of detail and less the products of design. They do an essential job but not the whole job. This internal survey [by Langbein and Hoyt] has gone only deep enough to bring to light some of the larger, more conspicuous omissions in the existing program as, for example, the lack of a firm network of base stations, and the sparse coverage of ground-water investigations, of chemical and quality information and of sediment data, and the neglect of performance data.

"These deficiencies reflect the development of programs so responsive to crisis and imperative need for data for this and that project. Continuing growth of this pattern will not correct the deficiencies. . . . Future work requires more than the present dependence on outside influences to guide the course of the basic data programs."

Here is what I take to be the heart and soul of the book: a plea for comprehensive, inclusive planning of all data-gathering and data-using efforts. Specifically, the authors observe that [1] "distribution of water information over the country is not effective, . . . [2] the basic data programs have emphasized data collection to the neglect of advancing knowledge of basic principles, . . . and [3] distribution of water facts among those who can use this information is inadequate."

Finally, the authors conclude by saying, "We have tried to emphasize the futility of spending more and more money for collections of raw facts unless there is a correlative effort to digest and interpret them. . . . Billions more will be

(Turn to page 73)

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Cape Cod Seashore Legislation Introduced

SENATORS Saltonstall and Kennedy and Representative Hastings Keith, all of Massachusetts, on September 3 introduced identical bills in the House and Senate to establish a Cape Cod National Seashore Park. By action of its Executive Committee on March 25, The American Forestry Association has already urged that the National Park Service be given full support in early establishment of the proposed seashore.

Broadly speaking, the bill would include in the park substantially the same area proposed by the National Park Service in its Field Investigation report, or approximately 30,000 acres. The bill also proposes several interesting innovations. The three sponsors, who have all been familiar with the Cape for many years, believe that part of the charm of the area is its "way of life" and its people. Accordingly they intend to avoid any disruptions along this line consistent with park policy.

In proposing a somewhat unique example of human engineering, Senator Kennedy called special attention to five features of the bill. These are: 1) each residential land

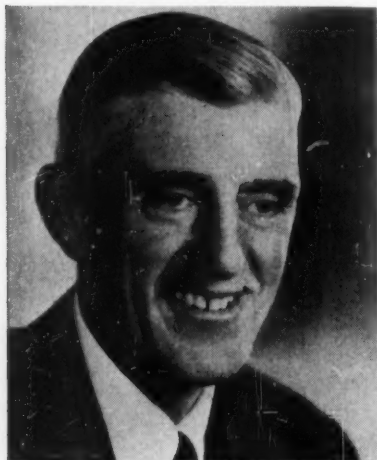
owner is given a minimum guarantee of electing either life occupancy or occupancy for 25 years; 2) in any of the six towns which adopt zoning, meeting standards defined by the Secretary of the Interior, all home owners in those towns whose property lies within the diagram of the park are assured of the right to continue to own and occupy their homes without interruption or interference so long as the zoning is kept in force; 3) in order to accommodate the possible growth and revenue needs of towns with land in the park, there is provision for setting aside in the future an acreage up to 10 per cent of the total private land in each town which falls within the park for new home building on the condition that such property is subjected to acceptable zoning; 4) there is an in lieu tax provision to give the towns a shock absorber in the event that there is a dip in tax revenue as a result of acquisition of private property in fee simple by the federal government; and 5) this bill establishes an advisory commission which will "have substantial influence in setting the policies governing the establishment of the park and its future administration."

Hunting and fishing would be permitted in the park at the discretion of the Secretary of the Interior, which would mean that to all intents and purposes this would be a new type of "multiple use" park. Inclusion of the Monomoy National Wildlife Refuge is also proposed, and it is believed that several small state parks and other parcels will also be included by gift or other means. A limitation of 15 million dollars on the amount which may be appropriated over a period of years for purposes of acquiring park property is also proposed.

Both Senators Saltonstall and Kennedy emphasized that the Cape Cod proposal deserves separate legislative attention and enactment.

"Though the Cape Cod proposal is obviously related in purpose to other proposals now pending or contemplated for other seashore areas, we are convinced that there are several important special features in the lower Cape which make it highly desirable that the committees of Congress have an opportunity to consider this proposal on its own merits and in its own setting," Senator Kennedy said. "Moreover, sea-

Senator Leverett Saltonstall



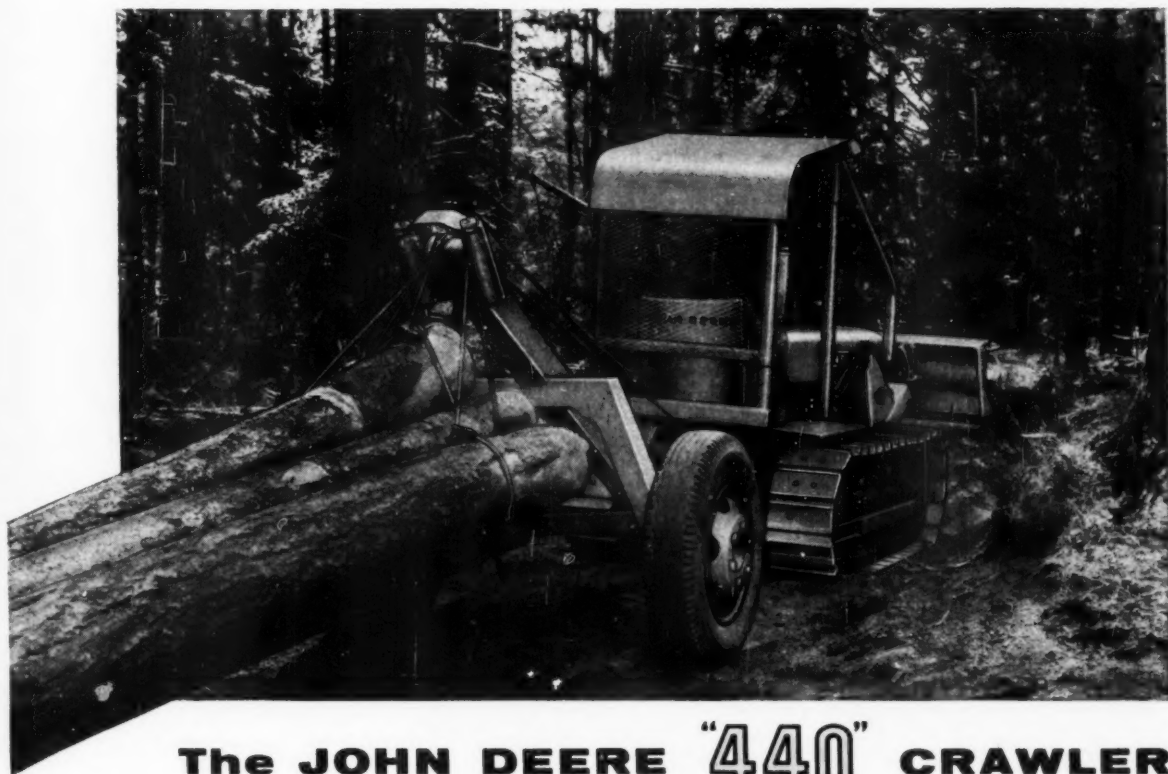
Representative Hastings Keith



Senator John F. Kennedy



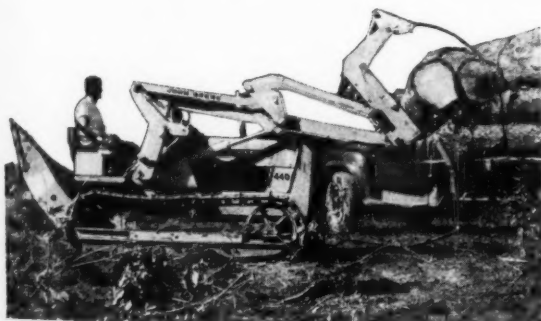
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shore park legislation is a relatively new field of legislation in which there is not a large reservoir of experience or precedent. We do not suggest that the Cape Cod Park is the only seashore area which deserves early attention. We merely suggest that each of the areas should be considered and analyzed on their own terms rather than being made a part of an omnibus bill which vests wide latitude in the executive branch in the selection of park areas and lands."

Senator Kennedy said that both he and Senator Saltonstall believe

that hearings should be held on the seashore proposal, and that both intend to "keep an open mind" in reference to some of the details of the plan. Senator Kennedy, in addressing the Senate, also made an eloquent plea for policies that will "improve the quality and breadth of recreational experience for the nation . . . especially in the East."

"It is imperative that as a nation we seize those clear opportunities which remain and not allow a proposal such as the Cape Cod Park—based upon careful professional judgment and experience—to become

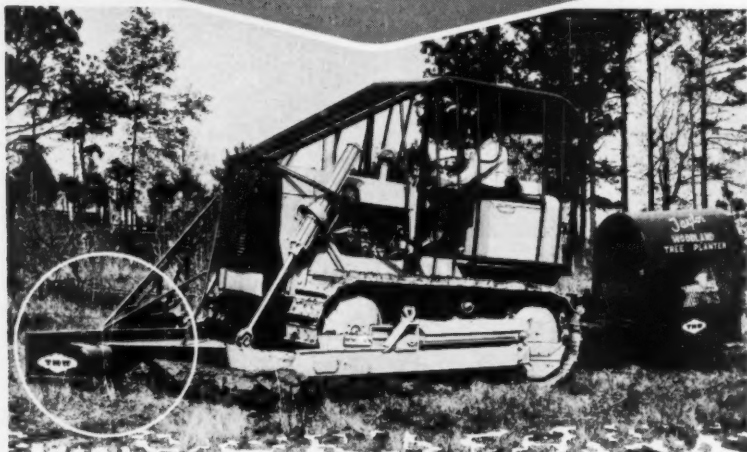
staledated and ultimately destroyed in barren controversy or unfulfilled hope.

"By any standard, it seems to both Senator Saltonstall and myself and to most of the citizens and public leaders of Massachusetts from whom we have heard, that lower Cape Cod presents such an opportunity. We know of no alternative or subsequent park development in Massachusetts which could provide the citizens of the commonwealth and the national public with such a rich and varied blend of scenic, recreational and scientific values.

"We believe that this bill which is uniquely designed for Cape Cod does properly harmonize the national, state, and private interests which are involved in a venture of this nature. We believe that it provides every reasonable protection to the private residential land owner and that it brings the park within realistic financial means for the federal government. Even as we attempt to capitalize on a great national asset, we shall under this bill be able to provide the individual Cape residents with a secure future and with a clear knowledge of what are their rights and responsibilities within the park.

"Again and again during our preparation of this bill over the past months, we have tried to keep in mind the rational core for the establishment of this park. It is all too easy to allow a proposal of this sort to become a victim of exaggerated fears. We have tried to set this proposal in the perspective of history and against the knowledge that an enterprise of this sort is precisely the kind of activity which characterizes a free people. We are confident that as a result of the protections which are clearly written into the law and the spirit which we know animated both the authors of the original proposal and of this legislation, that it will be possible to establish a great national park in an area which may otherwise be increasingly blighted by the relentless and sweeping advance of commercial development. If a park of this nature is not established on Cape Cod, there is every danger that much of the Cape will become a mere extension of the suburban civilization which typifies so many of our lives. If we act sensibly now, while the opportunity remains, we shall have preserved for America and for our people a priceless heritage to be enjoyed many times over, not only by this generation but by those which follow."

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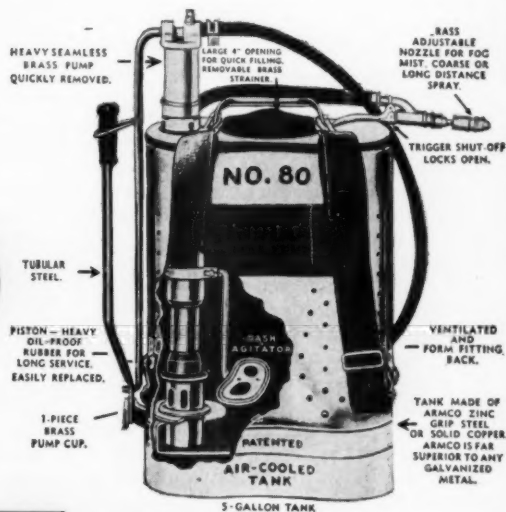


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The Forester

VS.



The Comrade

By RONALD M. LANNER

THE first technical paper delivered at the Fourth World Forestry Congress in 1954 was read by Soviet Academician V. N. Sukachev. On the surface this seemed quite normal, for Mr. Sukachev is a distinguished forest biologist and elder scientist. In addition to his membership in the Soviet Academy of Sciences he was editor of the influential *Botanical Journal*, and outside the U.S.S.R. he is probably the best known Soviet forester. He was also a co-president of the Fourth World Forestry Congress.

Beneath the surface however, his presence at Dehra Dun, India can be regarded as significant, for Academician Sukachev is a scientist who places scientific logic before political orthodoxy. And the fact of his attendance at Dehra Dun can be taken, in small measure, as evidence of a loosening of the reins on Soviet scientists at that time. Since that Congress there has been at least one tightening of the reins, and it is difficult to judge Mr. Sukachev's present situation.

Sukachev's personal revolt against Communist ideology is shown in his refusal to accept "materialistic biology," the politically-charged doctrine of genetics and evolution originated by the Soviet horticulturist Michurin and most ardently championed by Trofim D. Lysenko. In its basic form Michurinism or Lysenkoism can be regarded as a resurrection of the Lamarckian Theory. It rests on the concept that acquired characteristics are hereditary and are passed on to future generations.

The classic example of this theory revolves around Lamarck's comments on the giraffe. Over the course of many generations, it was explained, the giraffe stretched his neck in his efforts to feed upon the foliage of trees. As each generation gave birth to a new one, the necks of succeeding giraffes grew longer and longer.

Lysenko, in supporting this long out-of-date theory, has denied the existence of genes and completely ignores the great body of genetic and evolutionary science that has developed in modern times.

This devotion to pseudo-science has cost the Soviets dearly. While biologists throughout the free world have been making great strides in applying genetic principles to their science, Russian botanists and zoologists have been saddled with a theory that has been completely discredited for over fifty years. Agriculture, the sector of Soviet production that gives Russian planners their biggest headache, has been seriously hindered by the failure to apply principles of breeding that are accepted everywhere outside of the Iron Curtain. In crop-plant breeding, for example, Soviet agronomists can develop new strains only by empirical methods. While their occasional successes are easily explained by Mendelian principles, the refusal to recognize these principles dooms them to a slow and painful process of trial and error.

The same is true in forest tree improvement. Western foresters are actively engaged in the production and testing of hybrids. Without the

established genetic principles upon which they base their work they would be blind men fumbling in darkness. While they busily combine and recombine genes in efforts to produce the best combinations of inherent characteristics, their Soviet counterparts dutifully and irrationally preclude the possibility that genes even exist.

Probably never before in history has a great nation acted so ruthlessly to stamp out a vast body of well-verified scientific knowledge. The reason is abundantly clear—"materialistic biology" gives Communism a pseudo-scientific justification. For if a society can be made to believe that its political institutions and the human adjustments they require will automatically lead to improved offspring, that society can more easily endure a provisional loss of its freedoms. And a Communist worker is more likely to become a hard-toiling Stakhanovite if he thinks his unborn sons are thereby assured of superhuman prowess.

Early in his career Lysenko grasped the ideological importance of Michurinism, and to that theory he hitched his wagon. While no serious scientist will subscribe to his views, except under duress, their political implications are very attractive to Communists who fervently believe they can build a new and better world.

Regarded in the west as a crackpot and a fraud, Lysenko rose to spectacular heights under Stalin. He twice received the Stalin Prize, is a recipient of the Order of Lenin, and is a Hero of the Soviet Union. For a time he was even vice-president of the Supreme Soviet, and his "scientific" theories were made dogma by the Central Committee of the Communist Party.

It may be said that Lysenko climbed to glory over the bones of countless purged geneticists who would not corrupt their science for the sake of politics. After Stalin's death, less was heard from Comrade Lysenko. Malenkov, and then Khrushchev, relaxed the controls on scientific discourse, and free discussion of heredity began. Leading the attack on Lysenkoism was Academician Sukachev's *Botanical Journal* which carried articles that not only questioned Lysenko's supporters but accused them of falsifying their evidence.

It was during this period that Sukachev represented his country at the Fourth World Forestry Congress.

(Turn to page 78)

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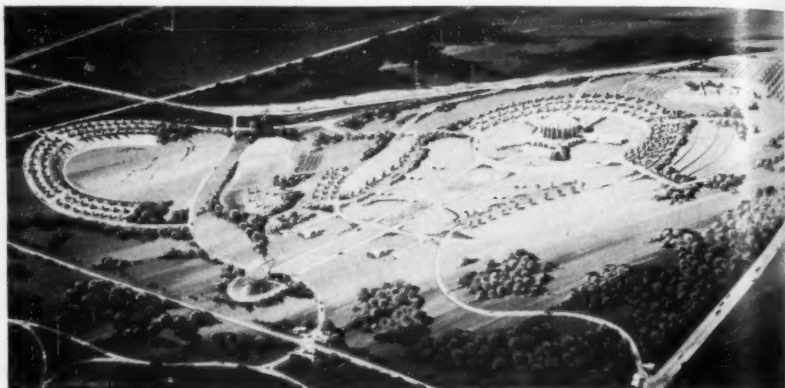
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Hall of Fame, being constructed in Kansas city, will be a world's fair for agriculture

An Agricultural Hall of Fame

By KENNETH B. POMEROY

"When tillage begins, other arts follow. Farmers, therefore, are the founders of human civilization."

DANIEL WEBSTER

CONSTRUCTION of an Agricultural Hall of Fame began last month on a 409-acre tract near Kansas City, Kansas when giant scrapers began moving earth in 24-cubic-yard bites. A 300-acre county park and a 45-acre entrance provided by the state of Kansas, surround the site.

Creation of an Agricultural Hall of Fame was suggested two years ago by Howard A. Cowden, president, Consumers Co-operative Association, as a way to tell the story of agriculture and of the men and women responsible for its greatness.

The project has been endorsed by President Dwight D. Eisenhower, both Houses of Congress, former Presidents Hoover and Truman, and a host of other leaders that sounds like an agricultural Who's Who.

Sponsorship includes farm organizations, land grant colleges, business and industry, farm youth groups, churches, schools, agricultural press, radio and television, individual farmers, and many others. A board of governors composed of 91 people from 31 states is directing the affairs of this non-profit, independent, educational enterprise. All development and construction costs are being met by voluntary contributions. Maintenance costs will be defrayed from admissions. There is no government sponsorship.

The Hall of Fame will be, in effect, a world's fair of agriculture. Prize livestock of many breeds will constitute a progress report on meat production. The newest styles in fruit and vegetables will be grown in demonstration plots. Chem-

istry's contribution to agriculture will be visible. Special exhibits will include farm buildings, designed for the future, and the latest in machinery and equipment so that farmers may compare all of them at one time.

In the rotunda of the main building will be life-sized busts of pioneer farm men and women, agricultural leaders, teachers, scientists, inventors, and others who made this country great by their outstanding contributions to the advancement of agriculture.

The public will be invited to submit nominations for the Hall of Fame on which the board of governors will vote. As many as 12 honorees may be selected the first year, but no more than three annually thereafter.

One wing of the main hall will be a library made up of historical rather than technical books pertaining to the farm. It will include all known material on power machinery, fertilizers, plant and animal breeding, forestry, soil and water management.

Two wings will be devoted to exhibits depicting the progress of agriculture in a lively, imaginative way. Here the farmer's story will be told to an anticipated one million visitors annually. Mobile displays, films, and dioramas will aid students. Education will be combined with entertainment in full-scale Indian and early American villages where people in costume will portray the activities of their day. Regular performances of authentic ceremonies will lend color to Indian life, while half-forgotten memories of American childhood will be visible in the blacksmith shop, the general store and the little red school house.

An outdoor amphitheater will seat 4000 spectators for pageants dealing with agriculture. Other buildings will house

a variety of exhibits, old and new, to contrast methods of farming today with those of the pioneers.

The first ceremony on the site occurred September 6, 1959, when 1000 county farm agents dedicated a flag-pole in honor of "America's first county agent, Squanto, an Indian who befriended the Pilgrims" and taught them how to raise corn.

In mid-September, farm leaders and government officials from 25 foreign countries erected an international shrine to all farmers. This shrine will contain soil gathered from hundreds of farms throughout the world to signify the common bond between all farmers.

The Agricultural Hall of Fame is a private undertaking in which all segments of agriculture are invited to participate. Charles Pace, president of Pace-Euclid, Inc., is moving the first 100,000 cubic yards of dirt without charge as his contribution. Farmers throughout Kansas are authorizing elevator operators to use portions of their harvest in a "Bushels of Grain for the Hall of Fame" campaign. Others are participating in many ways. Prized antique farm equipment is being catalogued, reconditioned and stored at the Wyandotte County Fair grounds until the Hall of Fame is ready to receive it, probably in 1961.

Each farm contributor, be it in cash or in kind, becomes a Founding Farmer with his or her name inscribed on an honor roll to be placed in the central hall. Each one receives a membership card and an insignia or car sticker.

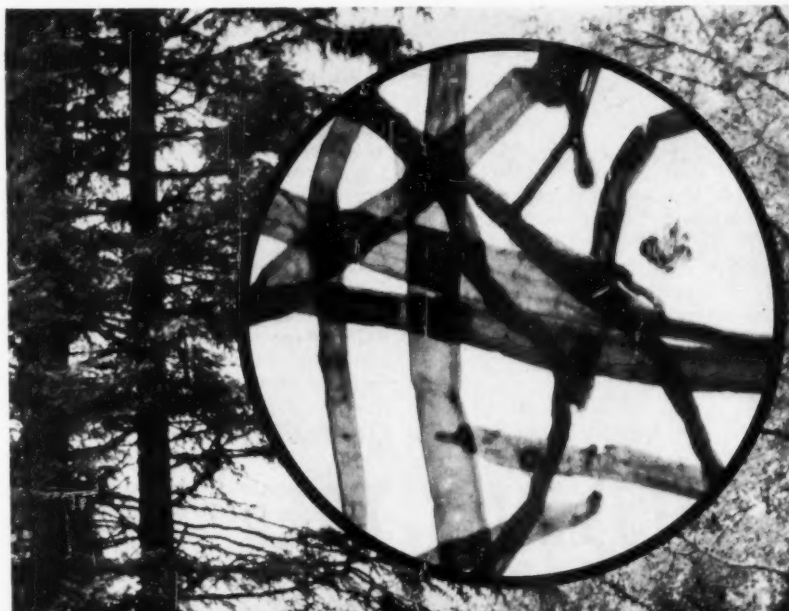
Raymond C. Firestone, president of The Firestone Tire and Rubber Company and Clark W. Davis, general manager of du Pont's Industrial and Biochemical Division are leading a campaign to raise \$5,000,000 for initial construction. This will provide for the main building, the Indian village, the old farm village, the outdoor amphitheater and essential landscaping. Other phases of construction will be undertaken later as funds become available.

Inquiries regarding this national shrine to the pioneers of American civilization should be addressed to the Agricultural Hall of Fame, Suite 604, 916 Walnut Street, Kansas City 6, Missouri.

Water for the Future

(From page 27)

The Clean Streams Program of the Department of Health and the Sanitary Water Board constitutes an outstanding example of what a state can do in clearing her streams of all



THE TREES AND THE FIBRES

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Our forests can be managed to provide for both, but only through wise use by everyone under the guidance of trained foresters.

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forms of industrial pollution and municipal waste. Dr. C. L. Wilbar, Jr., State Health Secretary, recently stated that Pennsylvania spent \$157 million for sewage treatment plants from 1952 to 1957. This was \$30 million more than any other state, and the net result, of course, is better water for all uses in Pennsylvania.

Let us look for a moment at the "World's Greatest River Rehabilitation Project," the cleanup of the Schuylkill River. Here was a river

which was clogged with silt and pollution, filthy and useless to man, and, because of its choked channel, a flood hazard. The river was desilted by the Water and Power Resources Board and the Department of Forests and Waters through the construction of dams and desilting basins, and dredging. Dredging of the lower section of the river was done by the Corps of Engineers with the remainder done by the department. At the present time, the department continues this operation

periodically on the entire river. In addition, industrial pollution was curtailed by the Department of Health working with the local industries, and sewage plants were constructed. The Schuylkill today is a recovered river, a water supply source flowing with good water and supporting aquatic life—vastly different from the Schuylkill of ten short years ago.

An outstanding example of federal-state co-operation in dealing with a major flood problem exists in the Federal-State Flood Forecasting Service, a co-operative service to the people of Pennsylvania by the U. S. Weather Bureau, the U. S. Geological Survey, and the Department of Forests and Waters.

Manned by both federal and state personnel, the service issues daily forecasts of river stages for industry, navigation, etc., and flood warnings and forecasts on Pennsylvania's streams through its offices in Harrisburg and Pittsburgh. Modern forecast techniques are used. The commonwealth maintains a state-wide system of rain and river gauges, as well as a radio network on the Susquehanna drainage for rapid and dependable communication in times of emergency, for the use of the service. The radio system has been rebuilt and modernized within the past few years.

Many of the commonwealth's programs, designed to protect, control, and conserve her water resources to the ultimate benefit of her citizens, have not been covered in this article: the basic work of the Divisions of Hydrography, Dams, and Encroachments of the Department of Forests and Water in gathering and compiling stream flow data, and the inspection and control of dams and encroachments on our streams; the conservation work of the Department of Agriculture and the State Soil Conservation Commission, and the ground water program of the Department of Internal Affairs. All of these, and others, are important segments of the overall picture of a state meeting its present water problems and acting to assure adequate supplies of good water for the needs of future generations.

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(From page 30)

servancy agreed to assist in the preparation of plans and the provision of certain legal and related

services. A partnership agreement was proposed between the Department of Forests and Waters and Western Pennsylvania Conservancy.

This partnership approach was nothing new. It characterized much of the progress achieved through the Allegheny Conference on Community Development and public officials from the various levels of government. The development of Point State Park in Pittsburgh to its present stage of construction was an accomplishment of the partnership effort between the Point Park Committee of the Allegheny Conference and the Department of Forests and Waters. The creation of the new McConnells Mill State Park was the result of the partnership and co-operation between the Western Pennsylvania Conservancy and the Department of Forests and Waters.

In anticipation of the need to strengthen the civic basis for planning the large-scale Muddy Creek project and developing plans for other regional park and conservation projects, Western Pennsylvania Conservancy was re-organized in 1958.

Under the presidency of Dr. Lewis, new by-laws were adopted,

the board of directors enlarged to 21, and the membership put on a dues-paying basis. Beginning in May, 1958, individuals were invited to become paying members. The plan of membership was designed to enlarge the citizen base of support and provide funds for planning, land acquisition, and conservation education.

A program of planning and development of properties held in trust, acquisition of additional lands to round out present holdings, and the preservation of other natural areas of significance was proposed. An office, staff services, and continuity of effort on a day-to-day basis were required.

In the past the conservancy's work had been conducted on a volunteer basis. Much was accomplished because of the zeal, devotion, and sacrifice of those who participated in its work.

To carry forward the program projected for the next five years, professional personnel and headquarters were needed. To implement this objective, the A. W. Mellon Educational and Charitable Trust in July, 1959 made a grant of \$130,000 to Western Pennsylvania

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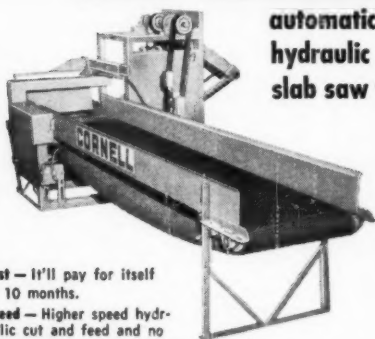


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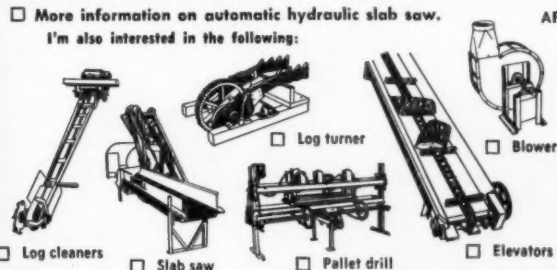
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Conservancy. With this substantial support the conservancy has launched a five-year program to preserve for public use natural areas acquired in accordance with a broad-gauge plan designed to serve the whole western region of the state.

Implicit in the new conservancy program is the need of a large mobilization of friends of the outdoors in western Pennsylvania. Membership categories were provided—member, \$5 a year; fellow, \$25 a year; sponsor, \$100 a year; and life members, \$1,000. Some 550 individuals are now paying members. The goal is to exceed 2,000 members.

A quarterly magazine, *Water, Land, and Life*, is now issued to the membership of Western Pennsylvania Conservancy. The magazine also serves as a medium for conservation education.

A review of the history of Western Pennsylvania Conservancy and its experience thus far reveals certain factors and suggests some observations which are offered for what they may be worth:

(1) The conservancy has no organizational formula which it recommends be adopted by other

areas. Each state or region necessarily develops its own response to the peculiar requirements and opportunities which exist.

(2) Continuity of effort is required. Enthusiasm may produce gains on a project basis, but day-to-day work is essential. Citizen interest and professional services are necessary to accomplish the job.

(3) Concern with conservation in its broadest meanings is important. Water, land and life are inter-related and inter-dependent. Conservation and recreation go hand in hand.

(4) The leadership of the conservancy, while interested in conservation in its broadest sense, recognizes that it is not possible or practical to do everything at once. Emphasis is placed, therefore, and effort concentrated on those programs which are deemed important, and where it is believed that something can actually be done; in other words, developing a plan and a realistic priority schedule, putting first things first and determining what are first things, according not only to the relative urgency of the situation but to the availability of resources to ac-

complish the desired results. In a sense, the conservancy is forever being asked to "do something" about this or that, and at the same time is forever carving out and limiting its activities within certain well-defined areas. Also, the conservancy endeavors to do thoroughly whatever it has decided to undertake, rather than merely giving lip service or casual attention.

(5) Planning is essential and is an integral part of the work of the conservancy. Broad plans supported by sound technical services provide the basis by which goals can be translated into meaningful, realistic programs.

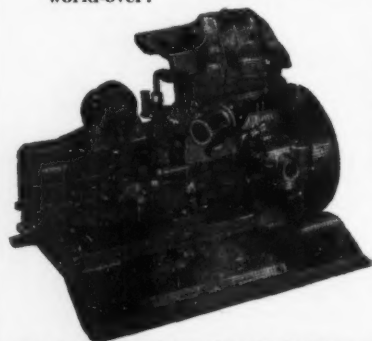
(6) Inherent in the organization, policies, and operations of the conservancy is its non-partisan character. Co-operation and a partnership of effort between public officials and the citizen association is essential. It is this teamwork approach between citizens and government which can provide the vital force to carry the program to reality.

(7) A sound financial basis and an adequate budget for operations is necessary if the voluntary conservation association is to achieve results

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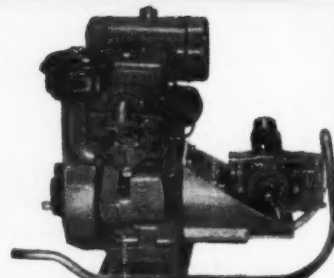
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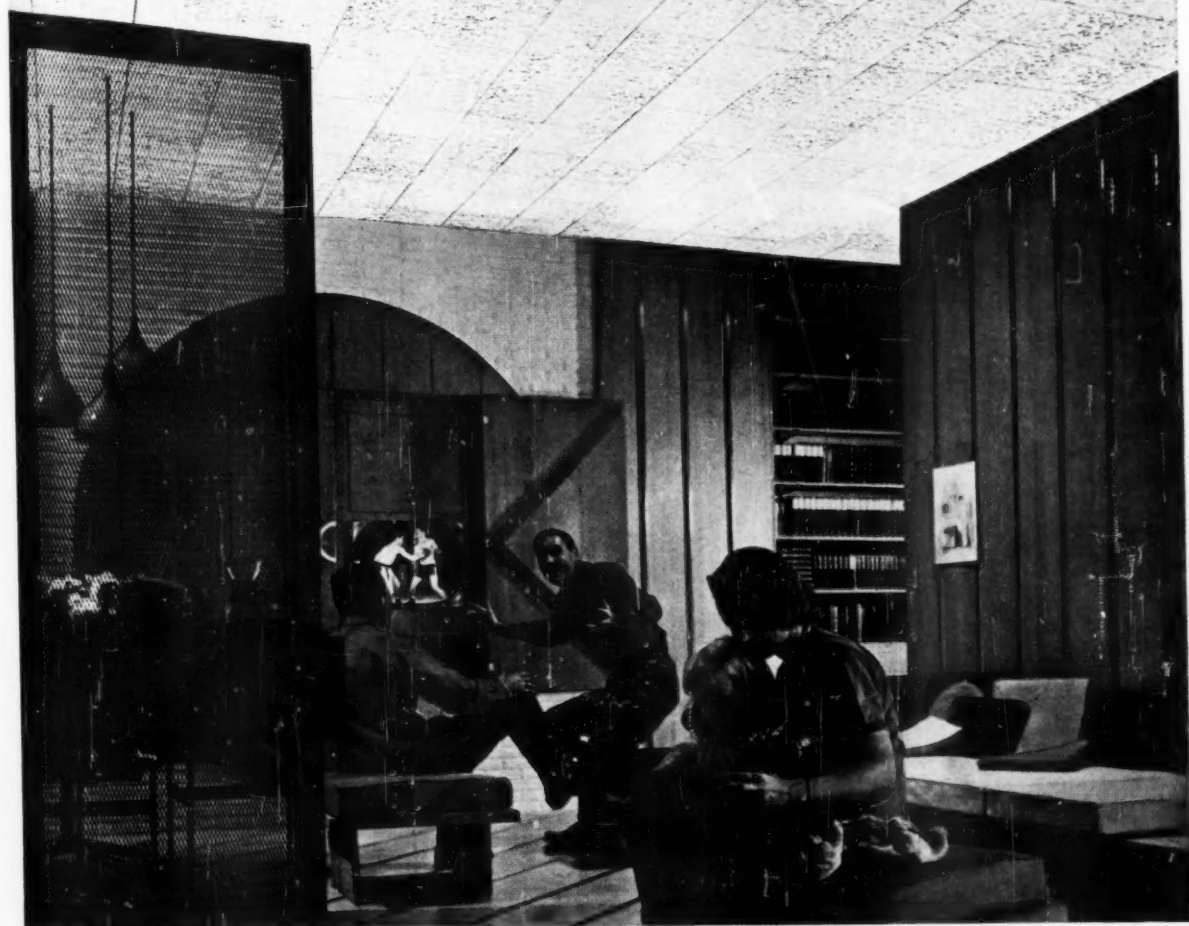
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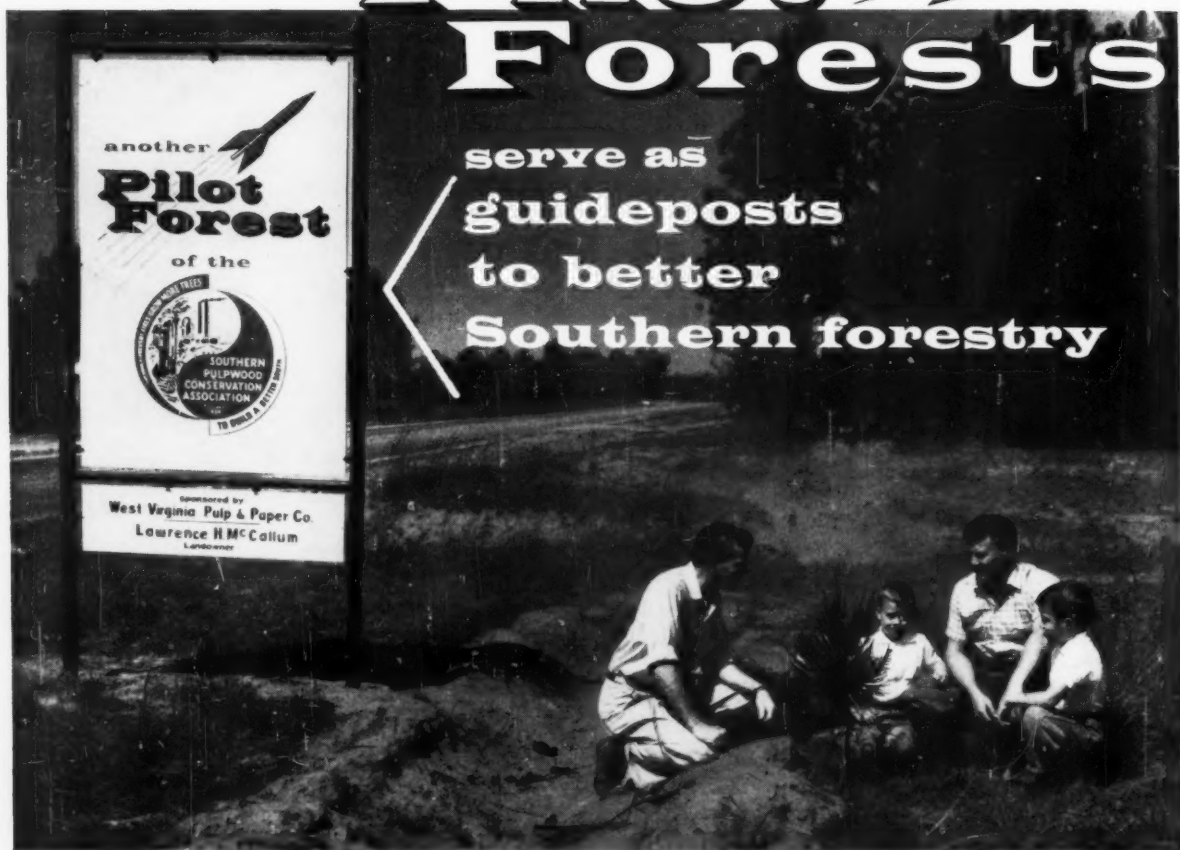
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Pilot Forests



The Pilot Forest program of the Southern Pulpwood Conservation Association and its member pulp and paper companies is one of the most intensive, long-range forest development projects ever undertaken. Dedicated on the second annual Southwide Pulp and Paper Day in April, Pilot Forests already have served to demonstrate to thousands of woodland owners the value of proper forest management.

And in future months, thousands more will visit these permanent industry-sponsored demonstration tracts to see first-hand how good forestry practices can mean higher productivity... with resultant benefits to the individual landowner, the Southern economy and all forest industries.

Located on privately-owned small tracts typical of woodlands in the surrounding area, 92 Pilot

Forests were established this year in 12 Southern states. Sponsoring SPCA-member companies carefully surveyed the selected property, then carried out the forestry management procedures necessary to bring these woodlands to peak productivity. Detailed cost and profit figures are kept to show visiting woodland owners.

While the sponsoring companies were responsible for all initial expenses, profits from the Pilot Forests go to the landowners.

Pilot Forests and other SPCA programs daily are demonstrating to small woodland owners throughout the South the tremendous economic opportunities resulting from sound, progressive forest management. This kind of close cooperation between industry and agriculture helps assure a bright future for the South and the Nation.



**SOUTHERN
PULPWOOD
CONSERVATION
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in the time which remains. Public understanding, citizen participation, and financial support are essential.

(8) The programs of the conservancy necessarily cut across the boundaries of political subdivisions. In its planning and entire operation the conservancy regards its geographical area of concern in a broad sense to include the whole western Pennsylvania region—all of "Penn's Woods West."

(9) Another factor evident in reviewing the conservancy is that it is in no sense a federation of existing agencies. It is not an organization of agencies but rather is an association of people. The directors are individuals who serve as individuals and not as "representatives" of other organizations. This means that prior approval by other agencies does not need to be obtained before the conservancy can take a position. It is free to act as an independent association of citizens in accordance with its own best judgment.

(10) Time is of the essence. Conservation of significant natural areas is no longer something which is important when the opportunity presents itself. What is not saved of "Penn's Woods West" in the next five years may not be saved at all.

In conclusion, it should be said that this report is not regarded as a "success story" for the challenge is enormous and the big job remains to be done. While natural areas have been preserved, goals determined, and plans formulated, the agenda is long and the time short. More important than plans, performance and all-out effort are required from government and citizens if the common objective of conservation is to be achieved. Enterprise, both public and private, is essential if "Penn's Woods West" is to be preserved for present and future generations.

Charcoal Burning

(From page 41)

bake oven, and spring house. Most of these structures you can still see today in that charming country of hills and old sycamore trees, some of which certainly saw the old iron-making days of the Birds, Olds, Brookes, Buckleys and others, including the common forest workers who cut trees and cordwood and burned charcoal in that picturesque era of the early iron-making industry.

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WASHINGTON LOOKOUT — (Continued from page 10)

Atomic Energy Commission are to report on desalinization of salt and brackish waters, and on the effects of nuclear energy on both water supply and waste disposal problems. Consultants to the select committee are: Dr. Edward Ackerman, who will report on multiple-purpose river management; Dr. Abel Wolman, who is studying new technical methods for improving water utilization; W. G. Hoyt, formerly of Geological Survey and author of texts on basic water resources; A. M. Eberle, former dean, South Dakota State College, now studying weather modification for the committee; and H. C. Gee, consulting engineer, West Palm Beach, Fla. In all, some 20 separate studies are being made for the committee, in addition to the general reports being made by federal and state agencies.

HEARING SCHEDULE OF SELECT WATER RESOURCE COMMITTEE: Bismarck, N.D., Oct. 7; Laramie, Wyo., Oct. 8; Billings, Mont., Oct. 9; Missoula, Mont., Oct. 12; Salt Lake City, Utah, Oct. 13; Sacramento, Calif., Oct. 15; Los Angeles, Calif., Oct. 16; South Dakota, Oct. 26-7; Detroit, Mich., Oct. 29; Philadelphia, Pa., Oct. 30; Topeka, Kansas, Nov. 18; Des Moines, Iowa, Nov. 19; Santa Fe, N.M., Nov. 20; Alexandria, La., Nov. 30; Columbia, S.C., Dec. 2; Jacksonville, Fla., Dec. 3; Augusta, Maine, Dec. 7; Boston, Mass., Dec. 8.

OVERRIDING A PRESIDENTIAL VETO FOR THE FIRST TIME, the 86th Congress passed a public works appropriation bill amounting to \$1,185,309,502 for rivers and harbors and flood control, reclamation projects, Bonneville Power Administration, Southwestern Power Administration, and Tennessee Valley Authority. Presidential veto of two public works appropriations bills was caused by Congress' inclusion of funds for 67 unrequested projects, which, according to President Eisenhower, would eventually cost in excess of \$800 million. Their inclusion in the final bill is temporarily offset by a 2% per cent reduction from the funds for all projects, thus bringing the 1960 total to \$97,166 less than the budget request, but \$40,597,502 in excess of the 1959 appropriation. The action of the Congress in overriding the veto has been variously interpreted: as an indication of the Congressional interest in speeding up the program of water development; as a successful attempt to break the President's previously unmarred veto record; and as a political move to enhance the local fortunes of members of Congress, there being "something in it for everybody."

Editorial — Pennsylvania's Resource Renaissance

(From page 17)

parks whose properties have trebled in value.

As a visitor tours these various projects—such as the 2,000-acre Gifford Pinchot State Park in York County—he actually thrills to the thought that here in truth is a man who is actually changing the face of his state for the better. Strip-mined land is being reclaimed. As Mr. Sommerville explains on page 24, the age-old curse of flood control is finally being met. Army Engineers agree that Pennsylvania, at one time the most flood-ravaged state in the union, now has a flood control program equalled only by California.

And that's not all. Under the Goddard regime, two cities—Philadelphia and Pittsburgh—have actually torn down part of their downtown sections (see cover) to make way for new parks. More cities are considering doing the same thing. Harbors have been deepened and improved. A total of 372 stream cleanup jobs have been effected in five years with more on the way, as the state plans to bring back 90,000 fishing licenses that have been lost for one reason or another. Pollution is being tackled head on. And more and more natural areas and parks are constantly being planned, with the potent Western Pennsylvania Conservancy setting new highs in dedicated public service and the

equally potent Pennsylvania Forestry Association making "Howdy," the good outdoor manners racoon, a household word in the state. And, finally, new industry is being drawn into the state.

Truly, this is an inspired program spearheaded by an inspired conservationist who wants only to see the streams running pure, the trees growing tall, and plenty of recreational elbow room for all. Here in Pennsylvania is the living refutation to all who have claimed that "conservation is impractical."

In a recent speech Goddard quoted former Governor Stevenson of Illinois, who said, "There is a new America every morning when we wake up. It is upon us whether we will it or not. The new America is the sum of many small changes—a new subdivision here, a new school there, a new industry where there has been swampland—changes that add up to a broad transformation in our lives. Our task is to guide these changes. For though change is inevitable, change for the better is a full-time job."

Dr. Goddard is trying to "guide the changes." In the opinion of many he is one of the outstanding foresters and human engineers of our time.



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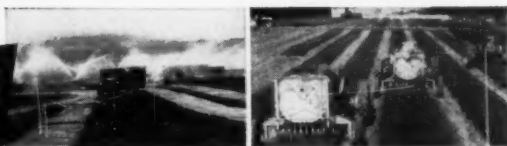


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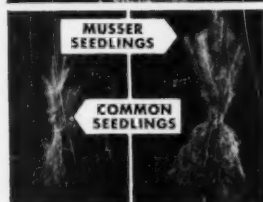
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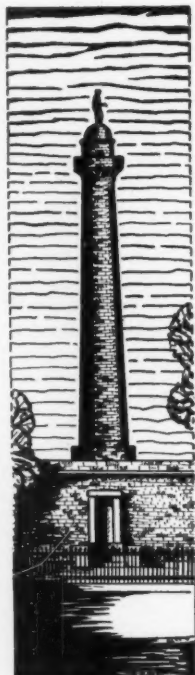


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The Gypsy Days

(From page 31)

starts to settle in the ribs and mid-veins (a structure plainly visible in an old dried leaf skeleton). As the leaf "ripens," the green chlorophyll breaks down, its waxy granules disintegrate, and other pigments show through. Then iron and other minerals carried up by the sap over the summer contribute a full pageant of coloring, not only to tree leaves but also to various weeds and grasses.

Thus it would seem that much of our so-called autumn color has lain slumbering all summer within the leaf; as the green chlorophyll departs, it is triggered into a more vivid hue. In the same way, a bruise on human skin turns purple and yellow and reveals latent pigments in the body.

Some experts suggest that as the leaf's structure breaks down, the sunlight is refracted differently in different kinds of leaves, thus giving an illusion of various colors. Nature has parallels in this. Blue eyes, for example, are actually colorless eyes which so refract the light that they appear blue. Bluebirds are actually birds with colorless feathers, the barbed-shaped ends of which reflect only blue rays.

Atmospheric conditions change considerably the aspect of the autumn landscape. On misty days the trees stand out as solid patches of color. On clear days, particularly following a rainfall, the very air seems to vibrate with waves of scarlet, gold, and purple. In the early days of the Soviet Union, experiments with color in making posters to mass-educate their illiterate people proved that yellow had the greatest carrying power. Some years later our own highway signs were changed from a white to a yellow background. Thus the golden magic of autumn beckons from afar.

We long to wander about—afloat, on horseback, or in our cars—over the painted land. Perhaps some old primitive memory of fleeing from the cold, or even the icecaps of prehistory, stir us to annual nomadism. We notice the squirrels dashing about gathering nuts, the migrating birds and butterflies, and the hoarding bees in feverish flight, and a restless wistfulness pervades us.

The vagabond days are here. The trees, with next year's buds already formed and waiting on the twigs, lead us along the highways and byways in a last gay fling.



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The Man From Hawk Mountain

(From page 35)

he dream then that within two years, through a chain of unusual circumstances, he would be given a leading role in changing a shambles into the world's first sanctuary for hawks and eagles.

For two long years, various efforts were made by individuals and organized nature groups to stop this slaughter, but none were wholly effective. But just when the situation appeared most hopeless, conservation history began to be made. Unknown to many, something was happening behind the scenes. An unusual woman had heard of the tragic plight of the hawks at Blue Mountain. Her "sleep had been tormented with visions of the birds gasping in agony or blown to bits in the sky," and she decided to do something about it—then!

That woman was Mrs. Charles Noel Edge, of New York City. Mrs. Edge was, and still is, chairman of the militant Emergency Conservation Committee, which has done so much to protect the natural resources of the United States. In August, 1934, Mrs. Edge obtained a one-year lease of the mountain, with option to purchase. With lease in hand, she began to look for a courageous warden to develop the property into a wildlife sanctuary and enforce the new regulations.

She at once thought of Maurice Broun. She had met him briefly in 1930 at the Pleasant Valley Sanctuary, and later at Cape Cod. So in the summer of 1934 she sent a telegram to Broun, who was then in Vermont, asking him to take over the wardenship that autumn, saying, "We must have a warden on the property: first to post it and then to guard it and get police protection. It is a job that needs some courage."

And Broun soon discovered that Mrs. Edge was right. The job demanded more-than-average courage—first, to dispossess the irate hunters, and second, to accept a job that at first offered nothing but room and board.

After carefully studying the proposition, Broun wired his acceptance. Before long he had complete legal authority over the property, and thus it was that Hawk Mountain Sanctuary—the world's first sanctuary for birds of prey—came into existence.

It was early September before

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Broun and his wife reached Dreher'sville. Stopping at a farm house, Broun asked the bonneted *frau* the way to Hawk Mountain.

"Ach, I dunno," she replied, somewhat bewildered. "Dere iss the Blue Mountain," she continued, pointing a stubby finger at a wooded ridge in the distance.

But in order to reach the mountain top in those days, one had to labor up a winding, rocky trail. "I shall never forget," Broun recalls, "our first ascent of that terrible, seemingly endless road." Having reached the top of the ridge, the Brouns stopped before a dilapidated old stone cottage occupied by a Mrs. Merkle. Since this house, known as Schaumbach's, stood strategically one mile east of the rocky pinnacle on which the hunters gathered to shoot the hawks, Broun asked if he and Irma might find temporary lodging there. "Yes, temporary," replied Mrs. Merkle, as she led them to a dingy attic room.

After a haunting night in a rat-infested attic, Broun was up early posting no-trespassing signs along the road that bisects the property. He had stopped in Schuylkill Haven on his way in to place announcements in four local papers, stating that the 1,398 acres were now an inviolate wildlife sanctuary and that the trespass laws would be strictly enforced.

During Broun's third evening at Schaumbach's, three surly figures smelling of whiskey and carrying shotguns stopped and talked to Mrs. Merkle in Pennsylvania Dutch. Broun sensed from their threatening attitude that they were complaining bitterly about the "foreigners" staying at her home. When the men finally started to leave, one of them turned to Broun and muttered in plain English: "This ain't a healthy place. You'd better leave the mountain before we have to shoot you off!"

The next morning Mrs. Merkle told the Brouns that she could not keep them any longer. She did not give a reason.

Back in Dreher'sville, they stopped at the home of Walter Koch.

"Maybe you have heard about us," said the Brouns, as they stood at the door. "We are the hawk people, and we are looking for a place to stay."

"Ach yes, ve heard about you," grinned Mrs. Koch, and added kindly, "We'll take you."

The Koch home proved a quiet haven from which the Brouns could



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carry on their work in comparative peace. They lost no time. They faithfully patrolled the mountain road through the sanctuary. They tacked up countless no-trespassing signs, which were torn down overnight by the angry hunters.

About this time Mrs. Edge visited Hawk Mountain to see what she could do to help Broun get things started. She suggested that Broun hire Bob Kramer, a local deputy sheriff, for ten weeks during the peak of the migration. Since Kramer spoke Dutch, he was well equipped to enforce the new laws at the sanctuary.

The gunners who for years had come to Hawk Mountain during September and October, of course came again. They were greatly angered when they discovered that "out-of-state chisellers" had taken over "their" favorite hawk-shooting site. As they converged from all directions, Broun, Kramer, and even plucky Irma were there to meet them. These three kept constant vigil, and despite the muttered threats of individuals and shotgun squads, they had a singularly quiet time during those two critical months.

Little by little, Broun made friends in the community. He gained the confidence and help of responsible people. And it was these people who were largely responsible for turning the tide of sentiment in favor of conservation at Hawk Mountain. What at first seemed an impossible situation before long turned into an undreamed-of success. As Broun puts it: "Kramer's help was a god-send, my wife's patience and courage were an inspiration, the Kochs were a blessing, and Mrs. Edge's financial and moral support insured victory." Hawk Mountain Sanctuary was on the map!

Now that the sanctuary had passed its birth pangs, it grew in popularity and influence under Broun's courageous and able curatorship. Hundreds of people from all walks of life thronged the sanctuary to observe the entrancing pageantry of migrating hawks. They came to see the "bold, impetuous speed of the peregrine"; the "grace and fluency of osprey moving down the sky"; the "wings of an eagle slanting into the west like the sails of a galleon." Newspaper and magazine publicity grew in volume and became friendlier.

In 1935 there were 1,250 visitors to the lookout, the rocky promontory from which the hawks are

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viewed. In that season Broun amassed factual data on 15,766 hawks, eagles, and other birds that had flown over the sanctuary. In the years between, the number of annual visitors grew from 1,250 in 1935 to 11,500 in 1958, and paid-up memberships in the Hawk Mountain Sanctuary Association now number 2,600 in 43 states and 9 foreign countries.

I have often wondered what Hawk Mountain would be like without Broun. The two are inseparable. Since 1953 I have made yearly pilgrimages to the sanctuary to see the birds—and Broun.

To observe him at work is to see a contented and completely human man. He is deeply devoted to his task. He is meticulous, methodical. Working as he does, remote from the urgency of every-day living, he draws from his love of nature an abiding serenity and peace of mind. These are two of his greatest compensations.

Broun shows great enthusiasm for his work, which he considers one largely of public relations and education. His desire to further wild-life conservation is the keynote to his whole program, and in pursuing this goal he often works practically around the clock. Broun believes that if nature is left to her own devices she will maintain a natural balance. He therefore opposes any interference by man that would upset that delicate balance. He has demonstrated an uncanny knowledge of birds of prey. And orni-

thologists the world over now look to him as the leader in this particular field.

Broun has used various media to further conservation. Foremost among these has been the press. His excellent book, *Hawks Aloft: The Story of Hawk Mountain*, has run through five printings. In it Broun graphically portrays the thrilling story of conservation as personally conducted at Hawk Mountain. His *Index to North American Ferns* has been accepted as authoritative in America and overseas. He has written more than 100 scientific articles on nature subjects for such periodicals as *Nature Magazine* and *The Auk*. And his well-written reports for the sanctuary's yearly *Newsletter* are not least among these literary efforts in conservation.

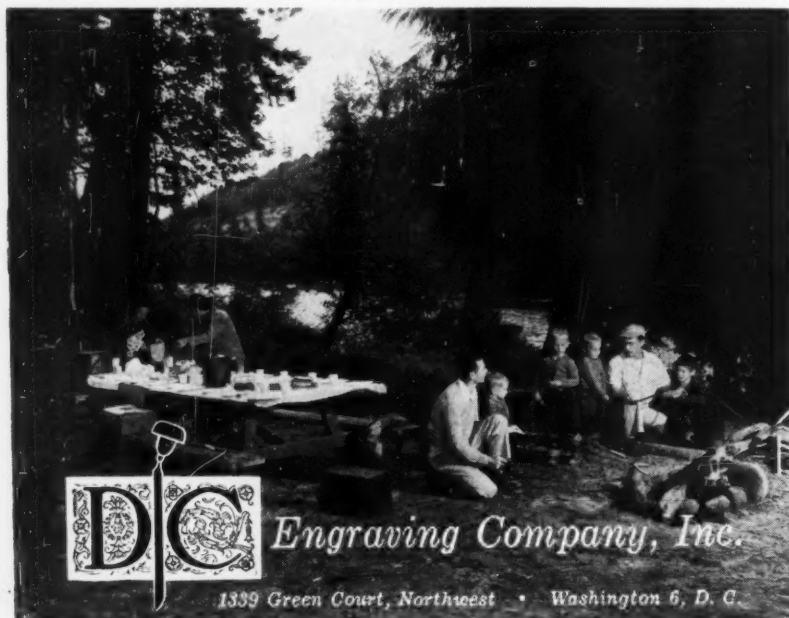
Broun has also lectured widely before women's and garden clubs, and Audubon Society groups. He has taken movies and color slides to illustrate his lectures, and these have given the sanctuary wide and favorable publicity. Saturday night illustrated lectures, held in the sanctuary's new Common Room of the Headquarters Building during the peak of the migration season, have also been highly successful in educating the public to love and conserve the things of nature.

On October 31, 1954, the directors of the sanctuary gave a party in the Common Room in the newly constructed Headquarters Building to celebrate the 20th Anniversary of the sanctuary's founding. A panel of six notable speakers addressed the 300 members and friends who had come from many states for the celebration.

Congratulatory messages poured in from a number of individuals and organizations. Outstanding were those from President Dwight D. Eisenhower, and Ludlow Griscom, chairman of the board, National Audubon Society.

Broun never ceases to propagate the doctrine of conservation. His consuming mission in life is to educate, educate, educate the people—especially the children—to see and learn to love and conserve the beauties of nature. "If I can accomplish that and nothing more," says Broun, "I feel that I have done my share."

"I serve society in my own way," he continues. "I try to show people how they can appreciate nature. Our civilization is too pepped up, too artificial, too much lacking in real values. Here I can take young



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people and give them a glimpse of the things that really count. They come away more human. And from that I take my satisfaction."

When Broun first came to Hawk Mountain, Pennsylvania had a lax law that protected three kinds of hawks. After years of earnest effort, Broun and those who have worked with him have succeeded in bringing about the passage of laws in Pennsylvania that prohibit the shooting of hawks during Septem-

ber and October, peak months of the migration season. The effort has spread beyond the borders of Pennsylvania, for now 14 states and 3 Canadian provinces have laws protecting all hawks.

Time alone will tell the full story of Broun's efforts at conservation. And if one may judge the future from the accomplishments of the past, the best chapters in the story of Broun's impact on conservation are still to be written.

Rebuilding Penn's Woods

(From page 23)

erations included cutting, bucking into logs, skidding to the log deck, loading and hauling to the sawmill, sawing and stacking, and, finally, trucking to a market or distribution point. It was interesting to me to know that this one tree actually created wages in the county equivalent to \$50, and the price paid to the commonwealth for stumpage was an additional \$10. It is readily apparent that the \$10 paid for the tree was really just the beginning, to be followed by employment of labor equivalent to five times the original cost. This creation of employment is an important and fundamental objective of the state forest management plan in Pennsylvania.

More important, perhaps, is the fact that the cut and harvest of timber is based on a sustained or continuous yield, thus insuring uninterrupted employment. The gross receipts from the sale of timber from state forests now exceed \$500,000 annually. It may not be too much to expect annual receipts totaling \$2,000,000 as our basic resource becomes increasingly valuable in quality and yield. A simple calculation indicates that the sale of this amount of timber will then create employment valued at over \$7,000,000.

As the harvests from the state forests are increased, it is likely that industry itself will expand to meet the larger supply of raw products. Not only is the increase of sawmills envisioned, but wood-using plants, particularly pulp and wood chip mills. In the latter field, the volume of timber resources in the state forests for the present and for years to come is sufficient to meet big industrial expansion. This includes manufacture of paper products, roofing materials, insulating boards, and a myriad of new composition products made possible through wood chemistry.

This is but part of the story. The

system of cutting at periodic intervals should actually accomplish another great objective of multiple use in the state forests.

With the advance of civilization and with our better knowledge of the needs of man, we now believe that the forests protect and conserve a more valuable resource than wood itself. Many now believe that water is our most precious resource. Available water cannot be increased in spite of man's rapid technological advances. Our job, therefore, is to conserve and safeguard our water resources and to wisely plan proper and equitable distribution in our expanded and complex civilization. Large, over-mature trees are, under this plan, removed to prevent their drawing great quantities of precious water from the soil to be evaporated and lost in the atmosphere. Harvesting of timber under this plan is aimed at providing the maximum yield of usable water from any given watershed. The management, control, and use of water in our entire watershed basin is now believed to be the most practical approach.

Special land and water co-operative projects, under Public Law 566, greatly encourage joint action of many agencies and individuals in performing well-conceived and constructive conservation programs on watersheds. Not only upstream land owners receive flood and erosion control benefits, but economical values are reflected throughout the entire watershed. Careful study and examination of the land by technicians results in a development plan which may involve reforestation, timber stand improvement, timber harvesting, improved methods of farm cropping, water diversion, and many other conservation practices. In Pennsylvania, four watershed projects are being developed and nine others are in various stages of planning.

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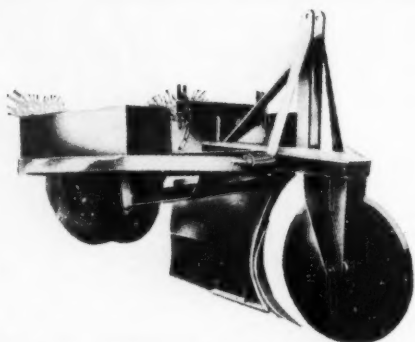
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Someone has wisely said that of all the resources on the earth, man is, without question, the most important, and that all other resources are for man's use and benefit. Since the beginning of time, people have sought recreation and pleasure in the mountains, valleys and woodlands. Pennsylvania's state forests and parks provide unparalleled recreational opportunities.

The largest groups using the forests are the hunters and fishermen who are free to pursue their sport in these areas, except on some restricted portions in state parks. Almost one million hunters enjoy tramping through the woods of Pennsylvania, and they have found the state forests to be excellent hunting grounds. Last hunting season, more than 16,000 deer and 215 bears were reported killed on state forests alone.

Use of the state forests for recreation is by no means a recent innovation; as a matter of fact, it was encouraged from the beginning. Tent camping was common and generally permitted at most locations.

A 1913 law permitting the construction of buildings by individuals on small leased sites merely confirmed the philosophy of Pennsylvania's pioneer conservationists who first urged the acquisition of land for the benefit of the citizens. This later law spoke in greater detail when it mentioned "health and welfare." Today, it is estimated that more than 200,000 citizens directly enjoy the benefits afforded by leased camps on state forest lands.

The heaviest use, however, is in our state parks; every year this use increases. In the last seven years, attendance at state parks has tripled. With our present five-day work week, and a four-day work week in sight, leisure time will undoubtedly increase.

New state parks to meet the expanding demands are planned or under construction. With a goal of "a state park within 25 miles of every citizen," four new ones are presently under construction and five others are in the planning stages. Last year, 20,000,000 people used our parks—about two visits for every man, woman and child in the commonwealth. It is interesting to note that funds for state park expansion are now provided from receipts received from rich deposits of gas, deep in the state forests, completely unrealized at time of acquisition.

The sixty-six state parks offer a great variety of recreational oppor-

A COVENANT OF RESPONSIBILITIES

By

The Crossett Company

The year 1959 marks the 60th anniversary of The Crossett Company. We believe that this is a good time to pause and carefully examine our experience in order to determine the real and important values upon which we have built our progress.

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- a responsibility to unborn generations to so exercise our stewardship over the forest resources which sustain us that we will leave the supply more abundant than we found it.

- a responsibility to the free enterprise system under which we prosper to earn a fair profit from our efforts, using such a standard of conduct that a fair profit continues to merit the endorsement of the majority, thus helping to guarantee a continuation of this system.

- a responsibility to ourselves to meet these obligations in such a way that we live in full human dignity in the sight of God, providing satisfaction to ourselves and to our fellow man.



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tunities. Picnicking is the most popular use, and bathing runs a close second. In addition, each state park has its own individual charm and unique beauty. The rugged topography and breathtaking scenery beheld as one ascends the winding trail among the towering hemlocks at Ricketts Glen State Park is in sharp contrast with a breezy, warm day at Presque Isle State Park, with the soft waves of Lake Erie lazily breaking on the white sand. Or compare, if you will, the awe-inspiring scene from observation points atop Leonard Harrison State Park with the dark trail through massive, lofty, white pines, heavy with incense, at Cook Forest State Park, or with "nature's wonder" at Hickory Run State Park, where an expansive boulder field has for years mystified and challenged many scientists.

Confirming the "health and recreation" theory expounded by Dr. Joseph T. Rothrock, father of Pennsylvania forestry, people are casually picking up principles of co-operation, cleanliness, obedience, and appreciation of natural resources in the public parks and forests of Pennsylvania. Study groups of all kinds receive both organized and informal educational instruction in our outdoor classrooms.

Almost half of the forest lands in Pennsylvania are in small holdings, held by some 275,000 owners. To help these small landowners manage their timber, the Department of Forests and Waters, in co-operation with the U. S. Forest Service, operates a technical assistance and advisory program. Last year, more than 3,000 owners benefited from this service. Many other requests for assistance, because of the size of the woodlot, were referred to consulting foresters for help. More and more woodland owners are becoming aware of the present and potential values of

their forest holdings and are seeking advice or, in some cases, are introducing on their own some practical principles of forestry.

Encouraging the reforestation of the 1,000,000 acres of idle land (best suited for growing trees) in Pennsylvania is another task promoted by the department. To provide the necessary tree stock, four large tree nurseries produce 20 million trees annually. Seedling stock for the coal-stripped areas in both the bituminous and anthracite regions totals some 8,000,000 annually, grown primarily in state nurseries.

To have and to hold all the great values of the state forests and parks, and to enjoy all the benefits that come from them, the department, in its early years of development, recognized the importance of prevention and control of forest fires. At the turn of the century, with abusive lumbering an accepted practice, forest fires seemed to add the complete and final touch to the picture of mountainsides and valleys covered with tangled masses of injured and broken trees. Backed by a dedicated and determined program, the department progressed through the years, battling the flames as well as the apathy and indifference of the people. Progress was made and great improvements have been accomplished. Now, an improved system of forest fire prevention stretches across the state and includes 150 fire observation towers with trained men, equipped with telephone and radio, ready to detect and report any suspicious smoke. Added to this is public support and co-operation with fire prevention programs resulting from years of fire prevention education. Actual fire control is centered in 3,800 trained, volunteer fire wardens with crews, willing and ready to go when notified and

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equipped with necessary hand tools. The downward trend in the number of forest fires in recent years indicates progress even though we are faced with the fact that more people are using the forests every year.

The simple fact that people are generally more thoughtful regarding

the benefits and economic value of the public forests is our best evidence that the conservation practices of the last 60 years are bearing positive fruit and that the state forests and parks of Pennsylvania will continue to serve the commonwealth's future stability and the knowledge and well-being of its people.

Reading About Resources

(From page 44)

spent for water projects, hopefully to yield good. Lest our hopes be forced to give way to the objects of our fears, we must now prepare to provide the right kinds of basic data at the right time and in the right amount. A delay entails the risk that the problems may be insoluble by the time the information is in hand. . . . Those who have enough interest in water to read this book ought to be just the ones to assume the responsibility of teaching this fundamental principle to those who guard the public purse."

Certainly anyone who reads this book will be so inclined, for the authors write with uncommon lucidity of the weaknesses in the present water data program, and their pleas

for action are documented in a persuasive way. It is not a subject that lends itself to easy interest, and I am happily amazed by the authors' skill in holding their reader's attention. These men are not only scientists and scholars, they are craftsmen—for which every reader will be grateful.

NEW AND TO NOTE

Rarely do we review anything so modest as a pamphlet, but from time to time one of real merit arrives. The Central Pennsylvania Open Pit Mining Association has published a "Progress Report on the Reclamation and Reforestation of Strip-mined Areas in Central Pennsylvania." Copies are available free

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by writing the Conservation Department of the Association at Philipsburg, Pennsylvania. Written and illustrated by forestry engineer W. G. Jones, this handsome brochure makes an outspoken case for the ultimate virtues of reclaimed strip-mined lands. The pro and con of such mining is a complex subject with which this column is not prepared to deal, but there can be nothing but good words for such effective land reclamation, once the damage of strip mining has been done.

An interesting series for amateur naturalists is the Dodd, Mead 1001 Questions Answered Series. Two new volumes in this project are **1001 Questions Answered About Birds** by Allan and Helen Cruickshank and **1001 Questions Answered About Trees** by Rutherford Platt.

These are both more useful and appealing volumes than their awkward titles suggest.

The Cruickshanks and Dr. Platt are highly skilled specialists who know so much concerning their subjects that the message comes through, although the question and answer form is a discouraging one.

Dr. Platt's book in regard to trees is a minor education in itself. Few readers are so sophisticated as not to learn a great deal from it. I personally found it tremendously informative, and while the Cruickshank book is no less so, the Platt *tour de force* through forestry is a staggering achievement that bears special note.

Izaak Walton League Launches "SOS" Shorelines Program

A campaign to save, enhance and assure public access to the shores of America's oceans and lakes and the banks of streams and rivers will be launched November 1 by the Izaak Walton League of America. Formal approval of the program was announced by President George F. Jackson, Colorado Springs, Colorado, following the annual fall meeting of the Board of Directors. Mr. Jackson said, "The Board of Directors of the Izaak Walton League has endorsed the principles and objectives of legislation proposing a federal-state 'Save Our Shorelines' program, and has approved an action program to implement its decision. The combined legislative and local action program will comprise the League's primary national-state-local co-operative effort for the remainder of 1959 and 1960."



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POTOMAC VALLEY STUDIED

Report By Citizens Committee on Natural Resources

AN "Outline Program for the Use and Enjoyment of the Potomac Valley" has been published by the Citizens Committee on Natural Resources, headed by Dr. Ira N. Gabrielson and Dr. Spencer M. Smith. The 48-page booklet was prepared under the auspices of a sponsoring committee comprised of members of the group of conservationists who joined Justice William O. Douglas on his C & O Canal hike in 1954. Anthony Wayne Smith, of the National Parks Association, is chairman. Other committee members are William E. Davies, John H. Cover, Grant Conway, and C. J. S. Durham.

Pointing to the lack of an integrated policy in the development of the Potomac Valley, the sponsors suggest adoption of some or all of the seven basic recommendations made, although the proposals are advanced "solely for purposes of discussion at present."

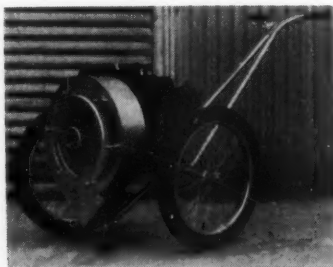
The proposals are: 1) A Potomac Valley Conservation Agency, charged with responsibility for the conservation and management of the natural resources of the region. The emphasis would be on conservation, not on exploitation. The booklet states, "unless the states can do much better than they have done thus far in reaching an effective compact, the agency would have to be federal"; 2) A grant of authority which would define a clear-cut and comprehensive policy and a system of priorities in resource management. This would be a departure from traditional methods of piecemeal assignments and grants of undue and arbitrary power; 3) Comprehensive powers in the agency to develop general and specific plans for the valley and the use and enjoyment of its resources, together with authority to conduct research and investigation and carry on experimental and pilot operations within its field; 4) The subordination of existing governmental agencies engaged in dam building, road construction, and comparable activities, to the review authority of the agency; a consultative obligation to be imposed on such bureaus as the Forest Service, the Soil Conservation Service, and others whose programs "are important but not destructive" in their potentialities; 5) Independent power in the agency to act in any resource field where action becomes essential and the bureaus normally responsible fail to move; action on pollution abatement would be an example; these powers would not extend to big dam and big road construction; 6) Sizable funds available for research into such questions as effluent distillation, sludge composting, salt removal, solar engines, and long-lived batteries, solutions which are essential to the best management of the resources of the region; 7) A simplified system of public hearings to enable everyone to present his views on programs and a fair process of appeal, affording something more than *pro forma* relief, perhaps eventually to the President.

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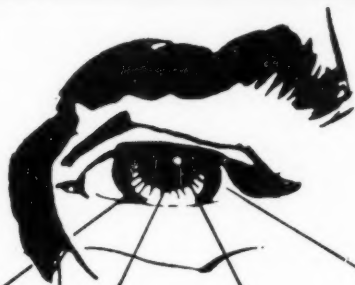


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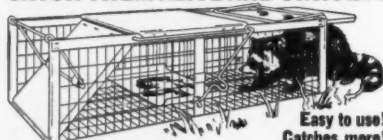
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Forester Vs. Comrade

(From page 50)

Unfortunately, this state of affairs was only temporary. In December, 1957, Comrade Lysenko's voice was again heard, stridently, from the columns of *Izvestia*. With obvious support from Premier Khrushchev, Lysenko savagely attacked Sukachev and the young biologists who had followed his lead. In a statement that was a classic of anti-intellectualism Lysenko advocated Khrushchev's suggestion of letting the collective farmers decide which was the valid theory of heredity!

In August, 1958, Lysenko's old status appeared fully consolidated once again. Several Russians scheduled to speak at the International Congress of Genetics in Montreal were withdrawn. In their places appeared others who read papers conforming to Michurinist thought.

Unless more recent developments have militated against Lysenko and for Sukachev, it seems that Communist ideology has won the battle against objective science. Academician Sukachev's presence or absence at the Fifth World Forestry Congress next year in Seattle may throw some light on the current state of Soviet biological policy.

Pennsylvania's Forestry Heritage

(From page 15)

cation was carried on under the association's auspices. From 1891 onward, he devoted most of his time to this work.

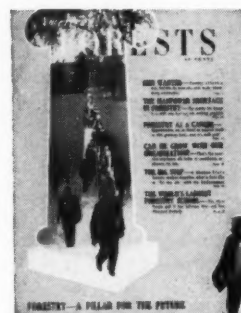
To an earlier generation of conservationists Dr. Rothrock's name was so well known that it was virtually a household word. But his career is less familiar to the present generation (he died in 1922), hence a thumbnail sketch of this great American is in order.

Born April 9, 1839, in McVeytown, Mifflin County, Pennsylvania, the son of a physician, Joseph Trimble Rothrock received a science degree from Harvard University in 1864. His college studies were interrupted by the Civil War when in 1862 he enlisted in a Pennsylvania Volunteer Infantry Regiment. He was wounded at Fredericksburg and was later promoted to a captaincy in the cavalry.

While at Harvard he became interested in botany through the influence of the renowned botanist Asa Gray. He then went to the Univer-

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sity of Pennsylvania to study medicine, but again his career was interrupted when he became a member of an exploring party to British Columbia.

After his graduation, he taught botany at the Pennsylvania State Agricultural College (now Penn State University) and later practiced medicine. In 1873 he went on another exploring expedition to the West as surgeon and botanist. He discovered and named new species of plants in the Rocky Mountains and California.

As was mentioned, his active interest in forestry, as distinct from botany, began with his appointment as Michaux lecturer. He made a trip to Europe, where his observations of well-managed forests provided subject matter for the strenuous lecture campaign that followed.

During the early 1890's he traveled by backboard wagon over the rough and rutted roads of the state, lecturing and showing lantern slides to all who would look and listen, striving to awaken people to the seriousness of Pennsylvania's growing forest desolation.

This period was an era of small beginnings in Pennsylvania and

other states. It must be remembered that there were practically no trained foresters in America before 1898. Hence most of the accomplishments prior to that year must be measured not by results in the woods, for they were few, but by many years of public education to inform the people of the forest situation. The federal Division of Forestry, The American Forestry Association, and the few state forestry associations then in existence were successful in stimulating some public interest to the extent that they helped shape public forestry policies and develop needed legislation, both federal and state.

The first commission to conduct a forest inquiry in Pennsylvania was authorized by the legislature in 1887. Another, appointed in 1893 to report on forestry conditions in the state, had Dr. Rothrock as a member. It provided the first reasonably complete data on the depletion of Penn's Woods, especially the damage by fire. Prophetically, in view of the present day interest in watershed management, this early report had a section on the relation of forests to stream flow.

At last, in 1895, with the creation by the legislature of the state De-

partment of Agriculture, provision was made for a Division of Forestry within the department. It was logical that Dr. Rothrock should be designated as head of this new division. Six years later he succeeded in having the division raised to the status of the Department of Forestry. Later, under the administration of Governor Gifford Pinchot, it was given its present name, the Department of Forests and Waters.

The three foundation stones on which Pennsylvania forestry was established are protection from fire (and later from insects and disease also), purchase of land for state forests, and public service and education. Next to Dr. Rothrock, the person who had most to do with building a strong state forest service during the early decades of the present century was George H. Wirt. A graduate of Juniata College and of the old Biltmore Forest School in North Carolina, he was appointed as Pennsylvania's first state forester in 1901. He began the first technical forestry work at Mont Alto, where the commonwealth had begun the acquisition of state forests.

In 1903 Mr. Wirt became director of the State Forest Academy at



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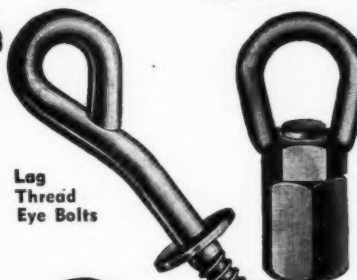


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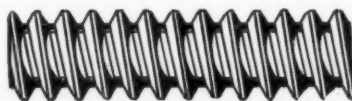
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Mont Alto, authorized that year by the legislature. Incidentally, Pennsylvania was the only state ever to train foresters solely for the state forest service. The school was merged with the Department of Forestry at Penn State in 1929, and is now operated as the Mont Alto Branch of the Pennsylvania State University School of Forestry.

Appointed forest inspector in 1910 for the Pennsylvania Department of Forestry at Harrisburg, Mr. Wirt in 1915 was made the state's chief forest fire warden. The present unified forest protection organization, of which he is largely the architect, has served as a model for other state protection organizations.

Up to 1911, when the Weeks Law was passed to provide federal aid to the states for the protection of forested watersheds from fire, only 16 states had appropriated funds for fire control. Pennsylvania had been one of these 16 states. Her laws wisely provided for the protection of all lands from fire, regardless of ownership. Under Mr. Wirt as chief forest fire warden, the construction of many steel fire observation towers and the extension of a network of telephone lines resulted in steady reduction of areas burned as well

as the average size of the fires.

Over the years, forest protection in Pennsylvania has benefited from federal co-operation, as have research and other forestry activities. But to the state's credit it must be said that good standards of protection had been started and maintained long before federal assistance was made available.

Large forest fires are now largely a thing of the past, so much so that it is difficult to realize that a few short decades ago as much as a quarter-million acres of Penn's Woods burned in a single year. Perhaps the greatest achievement of those early decades was the gradual change in public attitude toward fire. Now that the public has been educated to realize the value of efficient fire control, it not only expects, but demands, good forest protection.

The acquisition of forest reservations, later named state forests, began in 1898. The first lands purchased were located on the headwaters of the state's three large rivers. This early policy of land acquisition provided opportunity for the state to engage in forest management and administration, and thus build up a corps of professionally

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educated foresters. Up to 1920, more than 100 young graduates of the old Mont Alto school entered upon their duties as foresters in charge of the newly-created state forest districts.

In passing, it should be mentioned that the state forests now total 1.8 million acres. The success of the program later stimulated the acquisition of Pennsylvania's splendid system of state parks and state game lands, now aggregating nearly one million acres.

Upon the retirement of Dr. Rothrock as Commissioner of Forestry in 1904, Robert S. Conklin, who had been an employee of the commission since 1895 and who had been appointed deputy commissioner in 1903, was named to succeed him. Mr. Conklin held the post of commissioner until 1920, when he was replaced by Gifford Pinchot. Under Mr. Conklin's administration the state forests were increased in area to more than one million acres, the output of the state forest nurseries was enlarged, and much of the constructive work in protection from fire was accomplished.

Following his retirement, Dr. Rothrock was retained on the State Forestry Commission, a body of five, until shortly before his death in 1922. In the 1923 edition of *The Oak Leaf*, a publication by the students of the Mont Alto Forest School, was published this epitaph:

"Dr. Joseph Trimble Rothrock, citizen, soldier, botanist, forester and statesman, will ever head the roll of foresters in Pennsylvania. His work has been commemorated in silver, bronze and stone, but the million acres of green state forest covering his beloved mountains is his real monument. These mountain forests continue his service to the people of the state in an ever-growing measure—an immortal monument."

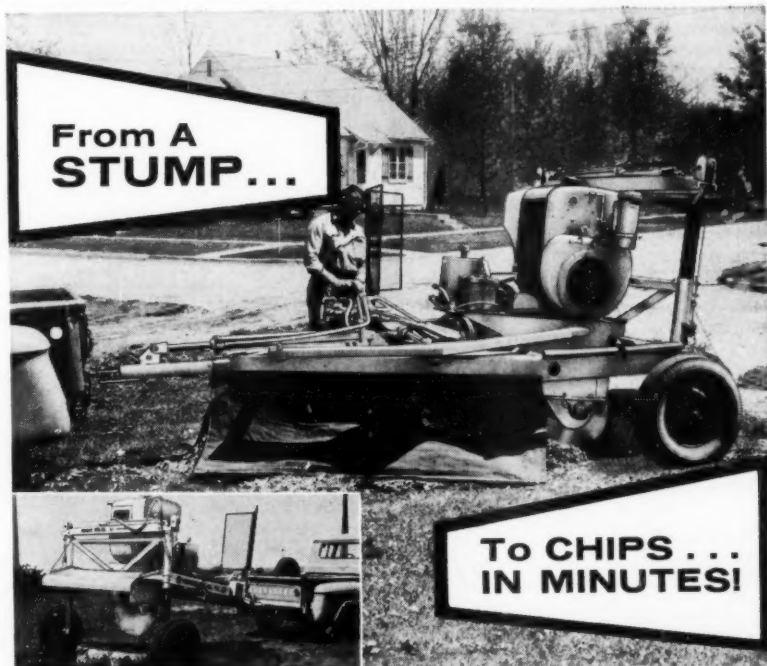
During the first two decades of the present century, the State Forest Commission was a potent policy-making force. Among the ardent conservationists who served on the Commission during these formative years were Dr. Henry S. Drinker of South Bethlehem, a former president of The American Forestry Association, Miss Myra Lloyd Dock of Fayetteville, Simon B. Elliott of Reynoldsville, J. Linn Harris of Bellefonte, Mrs. Mary Flinn Lawrence of Erie, and Col. Henry W. Shoemaker of McElhattan.

Miss Dock was one of the pioneer woman conservationists of America.

A botanist, she became interested in forestry after hearing one of Dr. Rothrock's lectures. As early as 1889 she was a contributor to *Garden and Forest*, the forerunner of *American Forests* magazine. A member of the commission when its constructive work was progressing rapidly, she was particularly concerned with the welfare of the early field foresters, whose lives were not without hardships. Indeed, her efforts in their

behalf is still remembered with gratitude by those foresters fortunate enough to have known this remarkable lady.

When Gifford Pinchot was appointed Commissioner of Forestry in 1920, with characteristic energy he at once set about reorganizing the department and infusing it with renewed vigor. The force of his dynamic personality, the availability of increased funds for forestry, and



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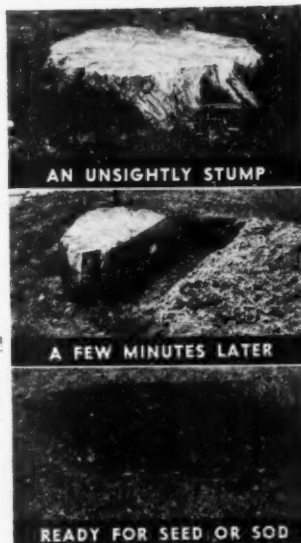
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the granting of enlarged responsibility to the field foresters all contributed to a heightened *esprit de corps*.

His predecessors were men who had no precedents and pitifully meager funds to build a forestry organization, but they used their wherewithal economically and efficiently. Hence, the foundation they laid made it possible for him to expand not only the forestry program, but the parks, recreation, and water policies as well.

Now, with the governor, the legislature, and public sentiment behind him, Mr. Pinchot made the most of these advantages. Until he himself was elected governor in 1922, he conducted a successful forest conservation crusade in Pennsylvania, not unlike the national crusade he led during the period (1898-1910) he was chief of the U. S. Forest Service.

In this undertaking he was ably assisted by Robert Y. Stuart, a Yale forestry graduate and a native of Carlisle, Pennsylvania, who was borrowed from the U. S. Forest Service to become Mr. Pinchot's deputy commissioner in 1920. Major Stuart set high standards of efficiency and public service, and, when Mr. Pinchot resigned, succeeded him as commissioner. Parenthetically, it is a meas-

ure of Major Stuart's ability as a forester and administrator that he subsequently returned to the Forest Service, and became its chief.

Thus, when Mr. Pinchot left the department to become governor, forestry had become firmly established as a policy of the commonwealth. The spade work had been done, the new ground broken.

In this historical summary the author has focused attention on a few individuals who greatly influenced the development of forestry in Pennsylvania. At the same time, for lack of space, he has failed to mention many other Pennsylvanians, women as well as men, who gave generously of their time and talents to the cause of conservation in its formative years. For the most part these individuals were members of the Pennsylvania Forestry Association, and into that organization their efforts and enthusiasm were channeled.

Thus, from an era of small beginnings, and with the constant and loyal support of the Pennsylvania Forestry Association, the forestry movement attained a momentum that has carried forward until this day. An account of the later years is properly another story.

Historic Gettysburg

(From page 36)

reached their goal and fought hand-to-hand to the death—but the others were forced back or fell.

While you're at Seminary Ridge, be sure to climb the lookout tower for a view of the 500-acre farm of President Eisenhower. Then drive through the Peach Orchard and Wheat Field to Devil's Den and Little Round Top, a principal vantage point on the sixteen-mile route. All these were scenes of heavy fighting the second day, when the casualties were extremely heavy. Along Emmitsburg Road, General Barksdale, the brave Mississippian, was killed. On the Union side, General Sickles lost a leg in the thick of action.

Now the road leads along the Union line, to the huge Pennsylvania Monument and the stone wall called the Angle, or the high water mark, the crest of Pickett's Charge. Nearby is the statue of General George Meade, the Union commander who proved more than a match for the seemingly invincible Lee.

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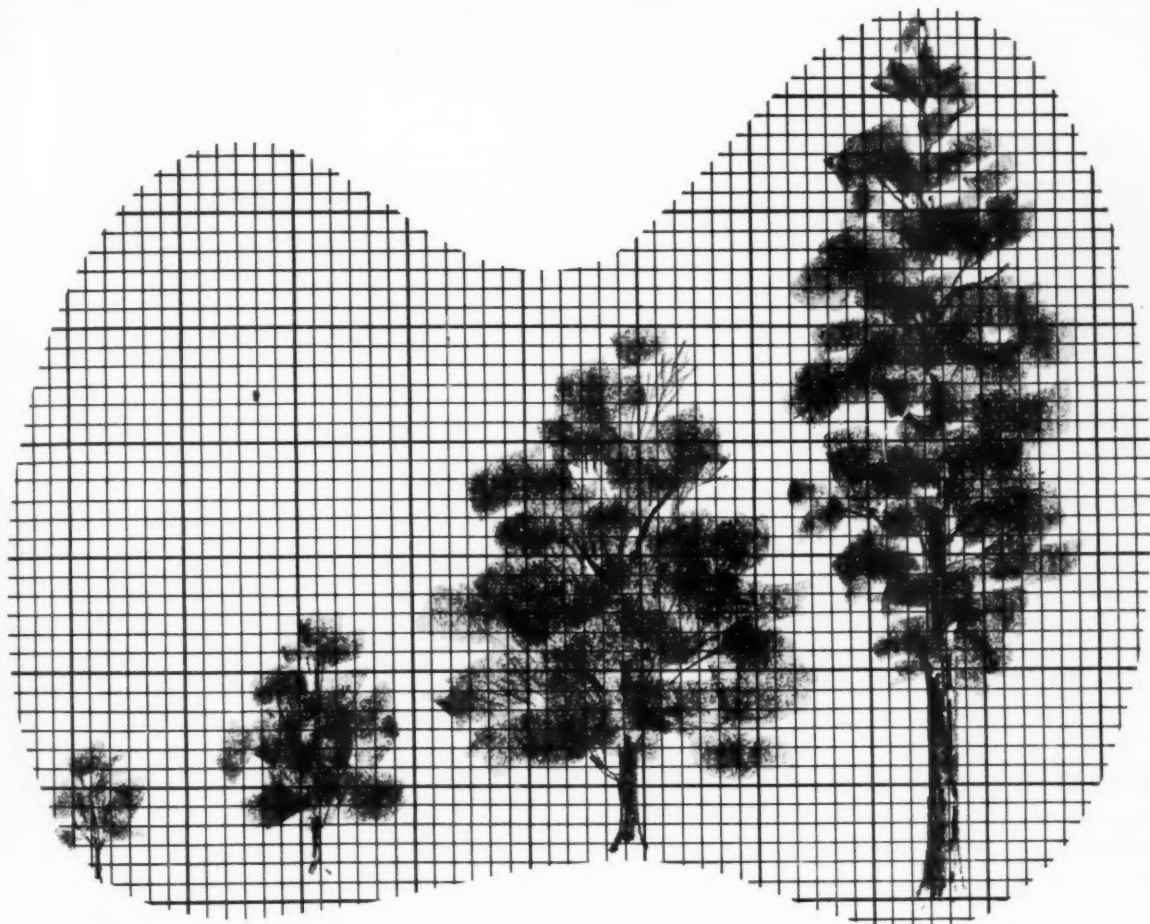
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Another principal point of interest, outside the park, is the Cyclorama (admission 30¢), a tremendous circular painting re-creating Pickett's Charge. As part of the National Park Service's "Mission 66" program at Gettysburg, the Cyclorama will be moved, probably next year, to a new visitor center and museum.

The Park Service has also proposed the acquisition of lands needed to complete the boundaries. The Senate, in the last session of Congress, was willing to appropriate \$650,000 toward this purpose, but the House of Representatives considered such an expenditure wastefully extravagant. Finally, both houses compromised by agreeing to spend \$450,000, providing zoning to prevent further commercialization would be enacted locally. This is not considered a very promising solution.

"But in a larger sense," Lincoln said in his words to posterity, "we cannot dedicate, we cannot consecrate, we cannot hallow this ground. The brave men, living and dead, who struggled here, have consecrated it far above our poor power to add or detract." But today our generation must determine whether, since we cannot add to this shrine, we should be judged in time by our "poor power" to detract.

**Earthquake Geologic
Area Proposed**

Plans to establish a special Earthquake Geologic Area in national forest lands affected by the recent violent earthquakes in Montana were announced last month by the U. S. Department of Agriculture. An intensive survey has been started by the Department's Forest Service to assess the effects of the Aug. 17 and 18 massive earthquake on life, property, and the earth's surface within the Gallatin and Beaverhead National Forests.

When the survey is completed, boundaries will be determined and the Earthquake Geologic Area estab-



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lished under Department of Agriculture regulations for setting up special areas of great public interest.

The Gallatin and Beaverhead National Forests sustained the brunt of shock waves which resulted in a giant landslide and the birth of the newest natural lake in the United States.

Sentiment is already building up among the people of Montana for establishing an appropriate memorial in Gallatin National Forest in memory of the men, women and children who lost their lives as a result of the quake. Richard E. McArdle, chief of the USDA's Forest Service, said that his organization would co-operate in any appropriate plan approved by the families concerned.

"Though the quake area is clothed in tragedy," Mr. McArdle declared, "the Forest Service recognizes that the area has tremendous new geological importance as the scene of one of America's severest earthquakes and its youngest natural lake." Physical evidence of the earthquake will be visible for centuries to come.

The Earthquake Geologic Area is expected to include the giant rock slide which dammed the Madison River, the new lake it created, and many of the prominent faults and fissures on the Gallatin and Beaverhead National Forests which resulted from this natural phenomenon. Mr. McArdle stated that the area would be managed to protect and preserve evidence of earthquake action so that it will be available for observation and study. Special trails, overlooks and interpretative signs will be included. Development work will start after the emergency work of opening up roads and restoring damaged public facilities has been accomplished.

The plan to establish the Earthquake Geologic Area is another action by the Department of Agriculture through the Forest Service to manage the national forests for total public interest, Mr. McArdle said.

The Montana earthquake is reported to be one of the strongest recorded earthquakes in recent history of the United States. The biggest earth movement of the entire quake area occurred on the Gallatin National Forest in Madison River Canyon seven miles below Hebgen Dam. There a tremendous slide, three-quarters of a mile long, slipped off the mountain, plugging the canyon with a natural dam. A new deep water lake is forming behind the



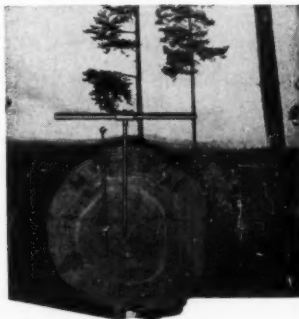
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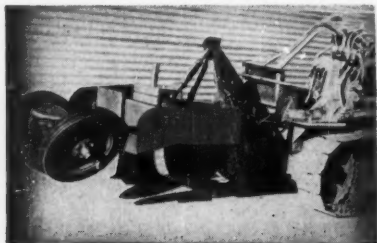
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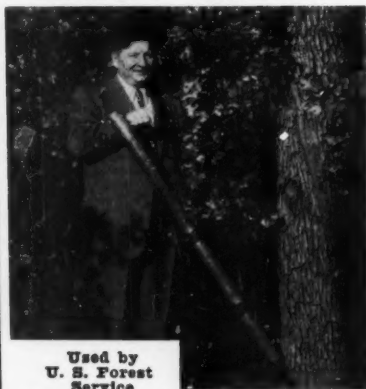
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dam and is expected to back water up for six to seven miles.

The newly formed lake is growing steadily. It is expected to be fully formed within a few weeks. Forest Service spokesmen said the consensus of geologists and engineers who have examined slide forming the new lake is that it will continue to hold indefinitely.

Forest Forum

(From page 11)

absolutely essential to preserve some of the forest and ground cover in back of the dunes, and not just the dunes. I also enjoyed "Afoot In The Grand Canyon." The article on using our wilderness resources is certainly well written. It contains a lot of very fine factual material and approaches the problem in a very sensible way.

All told, I think the magazine is very good and I just couldn't resist writing you about it. Being an old tree trimmer myself, and always looking up to John Davey as the father of the profession I followed in my earlier youth, I enjoyed "Kent—John Davey's Living Legend," and learned a lot I didn't know.

I wish you and your associates would accept our congratulations, because we appreciate very much the telling of these planning and park projects that deal with conservation in your magazine.

Conrad L. Wirth
Director
National Park Service

Wilderness Bill
EDITOR:

I have read the article "A Westerner Looks at Wilderness" and find the usual arguments against the Wilderness Bill.

I am a westerner too. In fact, I have spent most of my life in the wild country of this continent. And I am not the only one—there are thousands of westerners who can see the value to our people of natural areas of our land, left alone.

As we look at the development of the world we can see how many areas were devastated and made suitable only for mere existence, and barely that. Through the years, and more especially lately, many magazines have warned us of this fate of more of our land through thoughtless exploitation.

I am not going to hammer at the percentages of land in the various categories, the number of dollars in the various bank accounts, the welfare of those who make money their life work. What I want to stress is what we plan for the future of the human race. We all want to make a living. But beyond that, we want to enrich our living. All this chatter about wilderness for the few, and only for those who can afford it! One opponent said sarcastically: "Who wants to carry a pack?"

I only wish I could adequately describe my meeting with boys out in some of our wilderness areas, young people out for the life of freedom gained by personal striving—the happy looks on their faces! I have met grown people in the mountains of our back country, men and women who obviously gloried in the freedom of the wilderness. I remember an ecstatic fur trader in Labrador, who enthusiastically described the beauties he had seen. Robert Service put into poetry the feelings of the many pioneers who loved that freedom of the frontier. . . .

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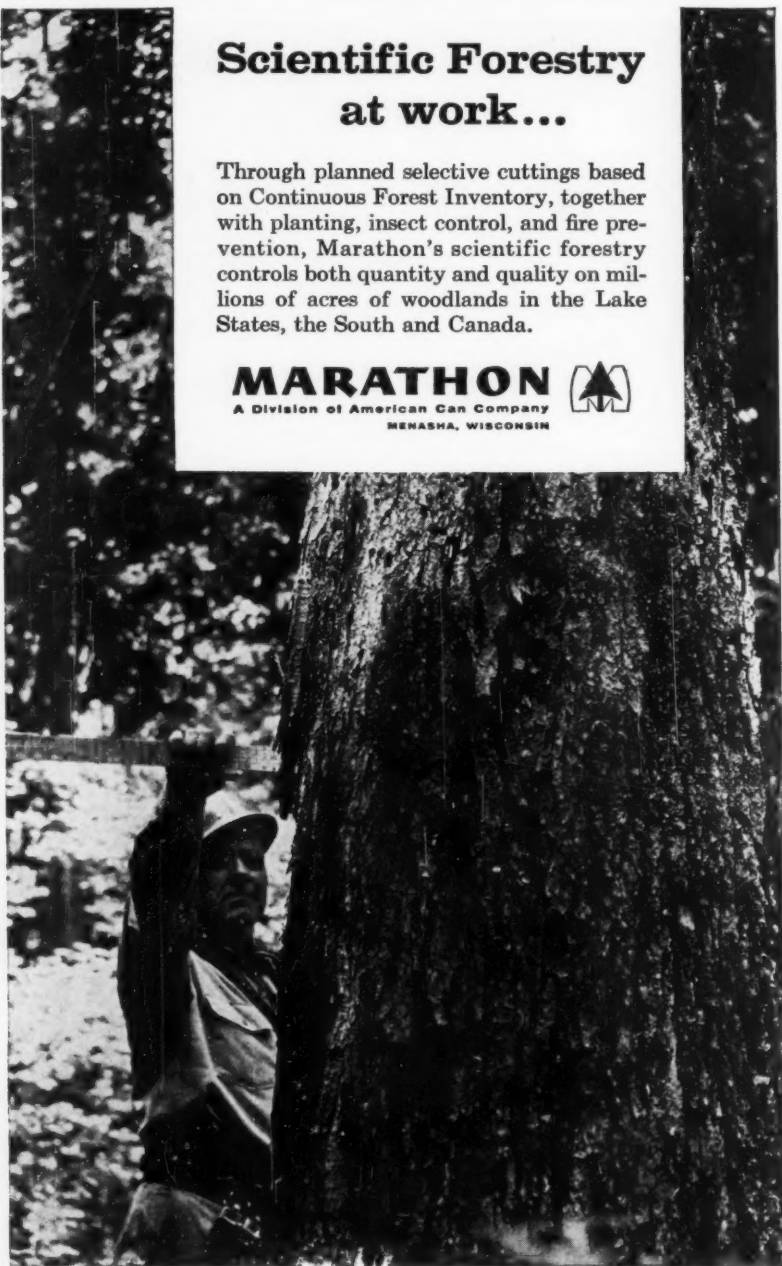
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There has been much talk of "wise" use and "multiple" use. Who is to say what is "wise"? Some self-appointed group with a special interest? And multiple use: do we not have to define that phrase? Does it mean that every acre must have all possible uses—hotel, library, lumber, wildlife, livestock grazing, etc. etc.? There are some forests devoted to livestock grazing—and some of those cannot have certain kinds of wildlife too. There are others that have herds of wildlife and cannot also have livestock. There are "multiple purpose" dams being planned that would put great areas of agricultural land under water and kill the spawning places of salmon and other fish.

We are using so loosely, and with certain designs, these terms, wise use, multiple use, and democracy. To serve the good of mankind properly, we need to do our best to provide for the multiple needs of people, not just measure the size of different groups and try to bring everything to a low average.

I want to say here that the Forest Service, organized to administer certain public lands owned by all the people, deserves tremendous credit for initiating the wilderness philosophy some years ago, with the understanding of what constitutes wilderness, in response to a growing desire of people for nature's frontiers. That is true "multiple use," a recognition of the multiple needs of our American civilization. . . .

One of the great dangers to our culture is the striving for conformity—to bring everything, all human striving, to a low average based on material status. We must keep an open mind. In the *Saturday Evening Post* is an article, one of a remarkable series, "The Curse of Conformity" by Walter Gropius. And in the last number of *Science* is a letter to the editor in which the writer includes the question: "Who may assume the right, in an open society, to assert that he can think for his fellows?" These are only random samples of what serious-minded people are thinking nowadays about our future.

We all agree that we want lumber, paper, beef, and other material things. More and more people think it is equally important to allow those who want it the opportunity to enrich their lives by wilderness experience. They want democracy. They want to share this earth with others. To do so, we cannot have conformity, we must have diversity. We do not want to build toward an autocratic dictatorship, but toward some sort of freedom of opportunity.

The kinds of arguments which have arisen in opposition to the Wilderness Bill by all those with a financial motivation show the need for just such legislation, to give Congressional backing to help the different bureaus involved in our public lands.

Let's be realistic and define what we really mean by multiple use. Wilderness can have various uses that do not destroy the desired wilderness qualities, such as that type of human enjoyment, wildlife, watershed preservation (as practiced by nature for centuries), scientific studies (very important), education, and all similar activities. Other public lands are devoted to lumbering or grazing, with whatever recreation of a different kind is possible.

Shall we, as some would have us, succumb to mass thinking? Or shall we have the chance to make personal choices? Let us try to build a democracy in our country.

Olaus J. Murie
Director
The Wilderness Society
Moose, Wyoming

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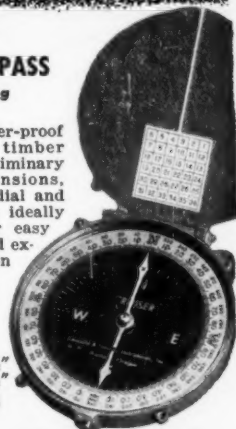
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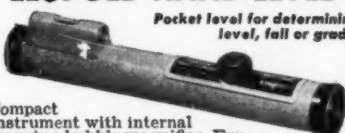
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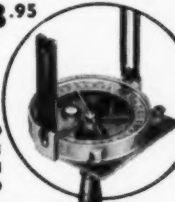
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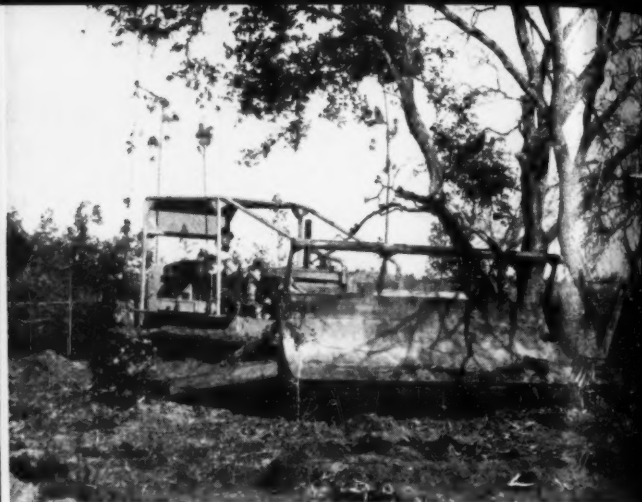
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